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11 July 1980

Worldwide Report

NUCLEAR DEVELOPMENT AND PROLIFERATION

No. 51

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WORLDWIDE AFFAIRS

CANADIANS ASK TO BUY AUSTRALIAN URANIUM DEPOSIT

Canberra Considers Proposal

Sydney THE SYDNEY MORNING HERALD in English 20 Jun 80 p 17

[Text]

The Federal Government is considering a proposal from a Canadian company to buy the Koongarra uranium deposit, the country's fourth largest uranium prospect.

The Koongarra deposit is situated in the East Aligator River area of the Northern Territory, just south of the rich Ranger uranium deposit.

The proposal has come from the large Canadian-based Denison Mines Ltd.

The deposits and associated mineral rights and assets at Koongarra are presently held by the unrelated Toronto-based mining and exploration group, Noranda Australia Ltd.

The Treasurer, Mr Howard, said yesterday "detailed consideration" will be given to the proposal for up to 90 days. Consideration of the proposal will require more time than the initial examination period of 30 days allowed by the Foreign Takeovers Act." Mr Howard said

The Koongarra deposit contains 5 million tonnes of ore averaging 0.3 per cent uranium oxide (6.6 pounds a tonne). Total contained uranium oxide is about 13,300 tonnes.

The plans for the $70 million project involve the treatment of a reported 365,000 tonnes of ore a year to produce 1000 tonnes of uranium oxide a year in the form of yellowcake over 12 years.

There has been substantial progress made on the project's development including an environmental impact study but no decision has been taken on its commercial development.

The Treasurer's announcement yesterday did not give details of Denison's likely intentions.

Last October it was reported that Denison was one of the overseas contenders for the Government's 50 per cent share of the Ranger project.

Government 'Delaying Action'

Melbourne THE AGE in English 20 Jun 80 p 17

[Report from Nigel Wilson]

[Excerpt] Mr Howard stressed that as part of the study of the proposal the Government "will be seeking appropriate assurances that the Government's foreign investment policy guidelines for new uranium projects will be met".

In face, the Government's delaying action is determined by the progress Noranda has already made in bringing Koongarra on stream.

Normally, the investment guidelines on uranium, which call for 75 per cent Australian ownership, would not apply in the exploration and proving stage of a project.

But the Government believes that if it were to approve a transfer of one foreign-owned interest to another foreign-owned corporation and development work followed, it would be seen to be short-sighted.

It is understood Denison has yet to give the Government any idea of how it would meet the guidelines.

Denison is regarded as an aggressive mining company with interests in uranium as well as other minerals.

No details of the price it proposes to pay Noranda were available in Canberra last night.

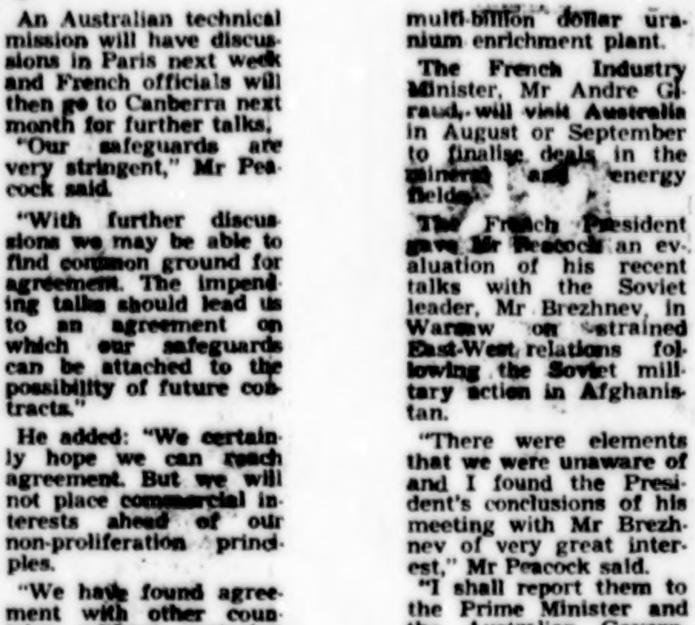
However, uranium mining officials suggested that because of the high standards specified in the Government's approval of the Ranger scheme, the cost of developing Koongarra had now probably escalated to more than $150 million.

CSO: 5100

FRANCE, AUSTRALIA DISCUSS NUCLEAR SAFEGUARDS PACT

Perth THE WEST AUSTRALIAN in English 7 Jun 80 p 4

[Text] Paris, Fri: France and Australia were speeding up negotiations for a nuclear safeguards agreement covering uranium supplies, Australia's Foreign Minister, Mr Peacock, said after conferring with the French President, Mr Giscard d'Estaing.



An Australian technical mission will have discussions in Paris next week and French officials will then go to Canberra next month for further talks.

"Our safeguards are very stringent," Mr Peacock said.

"With further discussions we may be able to find common ground for agreement. The impending talks should lead us to an agreement on which our safeguards can be attached to the possibility of future contracts."

He added: "We certainly hope we can reach agreement. But we will not place commercial interests ahead of our non-proliferation principles.

"We have found agreement with other countries without watering down over safeguards".

The French have discovered large uranium deposits in south-west France to meet military needs and they use imported uranium to feed scores of nuclear power plants.

Mr Peacock said President Giscard discussed the possibility of joint ventures between French and Australian interests in Australia including a multi-billion dollar uranium enrichment plant.

The French Industry Minister, Mr Andre Giraud, will visit Australia in August or September to finalise deals in the mineral and energy fields.

The French President gave Mr Peacock an evaluation of his recent talks with the Soviet leader, Mr Brezhnev, in Warsaw on strained East-West relations following the Soviet military action in Afghanistan.

"There were elements that we were unaware of and I found the President's conclusions of his meeting with Mr Brezhnev of very great interest," Mr Peacock said.

"I shall report them to the Prime Minister and the Australian Government."

In a speech at a French Foreign Ministry banquet, Mr Peacock said France and Australia could take a good deal of satisfaction in their present-day relationship and could anticipate its becoming more important in the future.

He stressed the complementary link between Australia's mineral wealth and France's technological know-how.

CSO: 5100

AUSTRALIA INTERVENES IN U.S. CASE AGAINST URANIUM COMPANIES

Melbourne THE AGE in English 9 Jun 80 p 3

[Text] The Australian Government has told a US court that the world's uranium industry has been thrown into "turmoil" and its future is now in jeopardy.

The Government made the warning when it intervened for the second time to help defeat a multi-million dollar damages claim against four Australian uranium mining companies.

It said the damages claim by the American Westinghouse Electric Corporation was "unjustified". It blamed the US Government for the events leading to the litigation.

The Federal Attorney-General, Senator Durack, yesterday released details of the Australian Government brief to the District Court of Illinois, presented last week.

It is the second time in eight months that the Government has intervened in the Westinghouse anti-trust case in an attempt to protect the Australian companies involved.

Senator Durack said yesterday he had already held talks with the US Attorney-General, Mr. Benjamin R. Civiletti, about the problem. Further discussions between officials of the two countries are expected soon.

The new Australian intervention is the latest step in an eight year story involving allegations of an international uranium cartel.

Westinghouse brought actions against 29 companies, including nine non-American companies, under the controversial US anti-trust laws.

It claimed the 29 had established an illegal cartel in 1971 to fix uranium prices. The nine foreign companies have refused to appear in court and there has been speculation about the US trying to collect their assets in other countries if they are forced to pay the "hundreds of millions" in compensation which has been threatened.

The Australian companies involved are Conzinc Rio Tinto of Australia, Mary Kathleen Uranium, Pancontinental Mining, and Queensland Mines.

Last year Australia passed an act to protect the companies from anti-trust judgments, but their assets in other countries could still be at risk.

The Australian Government submission says the US embargo on the enrichment of foreign uranium, which was reaffirmed in 1971, is the root cause of the litigation.

It says Australia expressed concern over the embargo at the time and says the US decision forced the companies into the alleged illegal cartel.

The submission argues that uranium is of crucial importance to Australia's future, and the case could put that in jeopardy.

"Aside from consideration of national sovereignty there are serious economic concerns which impel Australia to urge the court not to take or exercise

"The initiation and continuation of this massive — and, it is submitted unjustified — litigation have thrown much of the world's uranium industry into turmoil and are jeopardising its future."

Senator Durack also yesterday released a copy of a letter from US associate Attorney-General J. H. Shenefield to Judge Prentice Marshall about the case.

Senator Durack said the letter acknowledged that the submissions of foreigns governments in the case should be given "appropriate deference"; acknowledged the right of the governments to make submissions to the courts, by way of an "amicus curiae" brief, and urged the court not to punish a defendant because he was acting within the laws of his own country.

Senator Durack said the letter did not go as far as Australia had hoped, but it was a step in the right direction.

He said another issue which Australia's brief took up in the case is whether the court should impose sanctions on defendants who did not produce documents whose production is prohibited by foreign law.

He said there was general agreement in the US that international comity (courtesy) required the court to conduct a "balancing of interests" including those of foreign governments before deciding whether to impose sanctions

CSO: 4100

AUSTRALIAN QUESTIONS U.S. ROLE IN JAPANESE PLANNING

Sydney THE SYDNEY MORNING HERALD in English 16 Jun 80 p 8

[Report from Hamish McDonald in Tokyo]

[Text]

TOKYO, Sunday. — The United States is emerging more as a rival than a partner for Australia in attracting Japanese investment in a new uranium enrichment industry.

According to Japanese officials involved in enrichment studies here, the main thrust of American proposals to Japan suggest Japan might be invited to participate in expanded facilities in the United States.

This contradicts recent reports that the US Government is more interested in joining with Japan in an enrichment plant in Australia.

Australia and Japan decided to begin a joint study on the feasibility of building an enrichment plant late in 1974 during a visit to Canberra by the former Japanese Prime Minister, Mr Kakuei Tanaka.

The first stage of this confidential study, completed nearly two years ago, indicated that a plant producing about 1,000 tonnes SWU of enrichment uranium could be justified, Japanese press reports have said.

The Japanese Government has been cool about the proposal mainly because it is well advanced on a domestic enrichment program using its own centrifuge technology. A pilot plant began operating at Ningyo Pass, Wakayama prefecture early this year, and Government agencies are now discussing a prototype commercial plant with three large engineering groups — Hitachi, Toshiba and Mitsubishi Heavy Industries.

Construction of this plant would not begin until about 1986. Electric power companies meet their needs for the existing 21 reactors through long-term contracts with the US Department of Energy and Europe's URENCO.

The Australian Government recently turned over the enrichment study to four mining companies — the Broken Hill Proprietary Co, CSR, Peko Wallsend and Western Mining Co — known as the Uranium Enrichment Group of Australia (UEGA) which will evaluate the project on a commercial basis.

A team from UEGA led by Dr Robert Ward of BHP is due in Tokyo tonight for what Japanese officials say will be an introductory meeting tomorrow. Discussions are leading to a decision on whether to proceed to the second stage of the enrichment study.

Sources in the Japanese Science and Technology Agency, which is involved on the Japanese side of the enrichment study, said US Department of Energy officials had recently suggested in Tokyo that Japan invest in expanded enrichment facilities at Portsmouth, Ohio.

The sources denied there was a cross-investment proposal whereby the US would also join an enrichment program in Japan, as a press report here in April said.

The motives of the US Government are understood to be connected with policy on non-proliferation, by seeking to maintain control over enriched uranium supplies, and to spread the cost burden.

The American proposals are being watched closely by the Australian Government and companies.

"Clearly, if the Japanese entered something with the US and kept on with their own program, there would be nothing over for us as far as Japan was concerned," one Australian source said.

The options are likely to remain open for a long period however, as Japan has still to make key decisions on its own enrichment program and UEGA is evaluating a partnership with European groups as well, who at this stage appear more enthusiastic than the Japanese.

CSO: 5100

USSR, CUBA SIGN AGREEMENT ON NUCLEAR RESEARCH CENTER

Signing Reported

LD151914 Moscow TASS International Service in Russian 1905 GMT 15 May 80

["Agreement Signed in Moscow"--TASS headline]

[Text] Moscow, 15 May TASS--An agreement was signed here today on cooperation between the Soviet Union and Cuba on the building of a nuclear research center in Cuba.

Details of Agreement

PA161344 Madrid EFE in Spanish 1138 GMT 16 May 80

[Text] Moscow, 16 May (EFE)--The Soviet Union will help Cuba construct an atomic research center to facilitate a "nuclear solution" to Cuba's energy problems. An agreement for the construction of this center was signed yesterday in Moscow by Severo Aguirre del Cristo, Cuban ambassador to the USSR and by Vitaliy Morozov, first deputy chairman of the Soviet State Committee for Economic Relations Abroad.

Reliable sources have told this agency that the nuclear research center will dedicate itself to "the solution of energy conservation problems" and to the peaceful use of atomic energy. According to the sources, although the protocol does not mention the construction of nuclear plants, the atomic research center "will facilitate work in that area."

The Soviet Union is also helping Cuba build the first nuclear energy plant within the framework of the joint economic cooperation of CEMA countries (socialist common market). The projects have been partially suspended for "geological reasons," but the initial phase, based on studies of the place in order to correctly construct the atomic plant in the southern coast, near Cienfuegos, has continued.

To solve its energy problems, Cuba depends almost exclusively on Soviet oil, which it buys at preferential prices. But, in order to gradually replace dependence on Siberian oil with the atom, the CEMA countries have launched a big nuclear plant construction program. The Soviet Union, which next year will begin constructing more than 10 new plants on its European territory, will also help build atomic plants in Czechoslovakia, Hungary, Vietnam, Mongolia and Cuba.

In addition to energy problems, the Cuban atomic research center will study medical and agricultural problems connected with the protection of the environment and radioactive contamination. EFE has been told in Moscow that with that center the Cuban specialists will have "a great brain [as received] to handle all atomic energy problems and the multiple possibilities of its mass utilization."

CSO: 5100

PRC 'EGGING ON' PAKISTAN TO DEVELOP NUCLEAR WEAPONS

LD231400 Moscow TASS in English 1350 GMT 23 May 80

[Text] Moscow, May 23, TASS--TASS correspondent Sergey Bulantsev writes:

The public in Asian countries, especially those bordering on Pakistan, has received with great concern the reports that during his recent visit to Beijing Pakistani President Ziaul Haq held talks with the Chinese leaders on cooperation in the nuclear field. The Chinese leaders reportedly promised him to allow Pakistan to stage nuclear tests in Chinese territory. As was reported by the PRESS ASIA INTERNATIONAL, the Indian news agency, China assured Pakistan of its support and cooperation to help Pakistan to fulfil its cherished desire to join the nuclear club. With this aim in view, the news agency says, China is preparing to set off a Pakistani bomb.

Islamabad's nuclear ambitions have been known for a long time. Investigations in this field are being conducted in Kuhata, not far from the Pakistani capital, under the direction of a certain Dr Khan. UPI says that Dr Khan lived for some time in Holland where he managed to get access to top secret information concerning nuclear technology.

As to nuclear raw materials, Pakistan, according to international press reports, brought after 1977, directly or through the mediation of third countries, 368 tons of semirefined uranium ore. It is believed in well-informed circles, the Hong Kong magazine ASIA WEEK says in this connection, that Islamabad has already spent at least two billion dollars on its nuclear program for the purpose of developing its own nuclear bomb.

Moreover, during Ziaul Haq's talks in Beijing the two sides reported reached agreement on Chinese deliveries of enriched uranium to Pakistan for a test nuclear explosion. Chinese assistance to Pakistan includes, already now, services of Chinese atomic engineers. Thus Beijing is egging on Islamabad to develop and test nuclear weapons.

For a number of reasons Pakistani top rulers evidently consider it inadvisable to stage a nuclear explosion in their own territory. Such an explosion, which is impossible to conceal, would cause a sharply negative reaction throughout the world, especially among Pakistan's neighbours. A nuclear test would finally undermine the shaky international position of Pakistan which allowed itself to be drawn into the American-Chinese aggression against the people's system in Afghanistan. The explosion of a Pakistani bomb in Chinese territory would enable Islamabad, on the one hand, to check the effectiveness of its atomic weapon and, on the other, to keep secret its further nuclear plans.

The enormous unproductive expenditures on Islamabad's "prestige" nuclear program are beyond the strength of such an economically undeveloped country as Pakistan. No one threatens Pakistan. The striving of the Pakistani leadership to have its own nuclear weapons springs from the military ambitions of its top rulers, and not from any threat to the country's sovereignty and security.

CSO: 5100

AUSTRALIAN VISITOR PREDICTS URANIUM SALES TO JAPAN

Perth THE WEST AUSTRALIAN in English 18 Jun 80 p 54

[Report from Ken Merrigan in Tokyo]

[Text] The Premier, Sir Charles Court, has foreshadowed uranium sales to Japan after discussions with Japanese nuclear-energy officials.

Sir Charles also suggested that an agreement on sales of North West Shelf LNG (liquid natural gas) to Japan could still be some time off.

The Premier, who has just begun a seven day visit to Japan, met officials of the Power Reactor and Nuclear Fuel Development Company, a government body which, he noted, was concentrating its Australian exploration programme in WA this year.

"While the Japanese uranium needs for the immediate future are fairly well covered, I am certain the long-term demand for nuclear energy augers well for our entry into this new field of energy supplies of uranium," Sir Charles said.

He welcomed the company's interest because it would allow communications on a full range of nuclear technology, including enrichment and waste disposal.

YEELIRRIE

The Japanese are interested in the Yeelirrie uranium deposits, 400km north-west of Kalgoorlie. These are controlled by the Western Mining Corporation.

On the North-West Shelf project Sir Charles said the development programme was moving very smoothly to fit in with his schedule for a natural gas pipeline in 1984 and exports of LNG in 1986.

Sir Charles said it was fortuitous that the WA Government delegation, which includes the Resources Development Minister, Mr Peter Jones, was in Tokyo at the same time as the project sales negotiating team. This meant that policy matters concerning the energy industry could be clarified immediately.

CSO: 5100

AUSTRALIAN PARLIAMENT HEARS JAPANESE PLAN FOR NUCLEAR DUMPING

Australian Minister's Remarks

Brisbane THE COURIER-MAIL in English 22 May 80 p 1

[Text] Canberra.--The Japanese Government proposes to go ahead on a trial basis with the dumping of low level nuclear waste in the Pacific Ocean in the middle of next year.

Foreign Affairs Minister Mr Peacock revealed this in Federal Parliament yesterday.

He said after the trial dumping next year the Japanese authorities propose to spend about two and a half years on a safety assessment and evaluation of the trial dumping operation before further decisions are taken on sea dumping.

Mr Peacock was answering a question on notice from opposition frontbencher Mr Tom Uren.

He said it was understood that the wastes Japan planned to dump on a trial basis were in a form of 5000 to 10,000 cement solidified drums of 200 litre capacity containing a maximum of 500 curies of radioactivity.

(Curies is the unit used in measuring radioactivity.)

"The composition of the wastes has not been specified. Four possible dumping sites are under consideration," said Mr Peacock. He gave their location as:

He gave their location as: 26 degrees N, 150 degrees E, depth — 5,080-6,020 m; 30 degrees N, 147 degrees E, 6,200-6,300 m; 30 degrees N, 160 degrees E, 5,600-5,800 m; 26 degrees N, 156 degrees E, 3,300-4,300 m.

These locations put the possible sites in the Northern Pacific east of Japan.

"The Australian government has no plans to dump nuclear waste in the Pacific," said Mr Peacock.

"Australia which is a member of the OECD nuclear energy agency, will be in a position to give detailed examination to the proposed Japanese dumping operation following formal notification by Japan to the nuclear energy agency of its proposal," he said.

"Japan has not yet formally consulted other governments about these plans," said Mr Peacock.

"This will await the completion of action already under way to permit Japan to ratify the convention on the prevention of marine pollution by dumping of waste and other matter and to participate in the OECD council decision of July 22 1977 establishing a multilateral consultation and surveillance mechanism for sea dumping of radioactive waste.

Japan is therefore taking steps to ensure that any future dumping operation would be carried out in accordance with internationally agreed standards," he said.

At the South Pacific forum meeting in the Solomon Islands last year it was revealed that the United States was undertaking preliminary studies of locating an interim facility to store spent nuclear fuel for about 20 years on Palmyra, Midway or Wake Islands, in the Pacific.

The facility would handle spent fuel from commercial nuclear power reactors located not in the United States but in other countries of the Pacific Basin.

The studies are aimed at providing an alternative to reprocessing of spent fuel by giving these countries a means to store their spent fuel.

Australia was consulted at an early stage on this proposal and made clear to the Americans the adverse reactions which the idea was likely to attract from South Pacific countries.

Japan's Statistics Questioned

Canberra THE WEEKEND AUSTRALIAN in English 31 May-1 Jun 80, Supp., p 18

[Report from Alan Goodall in Tokyo]

[Text] JAPAN is storing at least 20 times more nuclear waste than it has told Australia it wants to test dump into the Pacific Ocean.

Within five years it will have 40 times more radio active waste to be dumped than the Australian Minister for Foreign Affairs Mr Peacock disclosed to Parliament last week.

From then on the urgency for the Pacific to become a nuclear garbage tip will boom as Japan's nuclear industry takes off.

Japanese waste disposal authorities say they want to start the first test dumping 900 kilometres south east of Tokyo in mid 1981.

But the managing director of the Japan Radio Active Waste Material Centre Mr Takehiko Ishihara, said Australia's approval would not be sought.

"So far we have received no protests from Australia, only enquiries," he said.

People in various Pacific islands have protested to the United Nations Organisation. Japanese fishermen are also protesting.

"We will go ahead with test dumping after the Japanese Government has ratified international dumping conventions.

"That approval has not come through yet."

Test dumping plans disclosed in Federal Parliament last week are for Japan to dispose of 5000 to 10 000 cement-solidifed drums of 200 litre capacity containing a total of less than 500 curies of radio active material.

Mr Peacock told Parliament Japan had not yet formally consulted other Governments about Pacific waste disposal tests.

Tokyo sources revealed that the tests would get rid of only a small proportion of Japan's nuclear waste.

A Science and Technology agency spokesman said waste from nuclear reactors, medical and research centres amounted to 230 000 drums of 1000 curies of low level active material.

By 1985 the pile up would amount to 400 000 drums of at least 3000 curies, he added.

The radioactive waste comes from 21 nuclear power generating plants.

Japan is building seven more nuclear plants and another seven are approved for construction.

The Japanese Government estimates the number of commercial nuclear plants will triple in ten years to 60 as this resources-poor country becomes a nuclear super power.

Australia is a key source for Japanese nuclear expansion. Four Japanese companies will set up a consortium in June to acquire ten per cent of a new Australian developer, Energy Resources Australia, to mine Ranger uranium deposits in Northern Territory.

Ranger exports of 3300 tonnes a year from 1982 will go to West Germany (60 per cent) and Japan (40 per cent).

The Japan Nuclear Safety Commission has also released a draft report on measures to cope with nuclear power plant accidents: one plan requires children and pregnant women to evacuate areas recording five to 10 Roentgens an hour at detection posts to be set up around the country.

The Government science and technology agency spokesman said nuclear waste was being stored at power plants because of Japan's limited land sites.

The question of dumping waste in other countries, such as Australia, had not been seriously considered.

The Pacific was believed to be the safest tip, he said.

The new Japanese Government to be elected on June 22, will have to urgently consider ocean tip sites.

The most favored is 900 kilometres south east of Tokyo on 30 degrees north latitude by 147 degrees east longitude.

CSO: 5100

PARLIAMENT MULLS NUCLEAR WASTE DUMPING ISSUE

OW220559 Hong Kong AFP in English 0329 GMT 22 May 80

[Text] Canberra, May 22 (AFP)--Japan proposes to dump low-level nuclear waste in the Pacific Ocean in mid-1981. This was revealed in the Australian Parliament by the minister for foreign affairs Mr Andrew Peacock in answer to a series of questions on notice from the opposition member, Mr Malcolm Uren, who is the chief spokesman for the anti-nuclear campaign in Australia. Mr Peacock revealed that the Australian Government has discussed the matter with the Japanese Government in Tokyo. The Japanese Government describes the dumping as a trial, so that over a period of two and a half years an assessment can be made on safety before any further waste is dumped at sea.

Australia understands that Japan will consult other governments after the ratification of the convention on the prevention of marine pollution. Also, Japan is awaiting the establishment of the international decision of July 1977 to establish [as received] a multinational consultation and surveillance mechanism for sea dumping of radioactive waste.

Australia, as a member of the OECD Nuclear Energy Agency will examine in detail the Japanese-proposed dumping operation. Australia has no plans to dump nuclear waste in the Pacific Ocean. Mr Peacock added that the dumping position is understood to be 26 degrees north, 150 degrees east at a depth of 6,000 metres; 30 degrees north, 147 degrees east at depth of 6,200/6,300 metres; 30 degrees north, 160 degrees east at depth of 5,600/5,800 metres; 36 degrees north, 158 degrees east at depth of 3,300/4,300.

In answer to further questions Mr Peacock said that between 1946 and 1970 the U.S. dumped low-level waste into its own offshore coastal waters outside San Francisco Bay, and between 1950 and 1964 Japan dumped a lower quantity of low-level laboratory waste at the entrance to Tokyo Bay.

Japan is seeking a more comprehensive trial in a remote area but the U.S. has no current plan known to Australia for future dumping in the Pacific, but is evaluating the whole idea of ocean dumping.

CSO: 5100

'ENVIRONMENTAL RADIATION' MONITORED AT AUSTRALIAN PORTS

Canberra THE WEEKEND AUSTRALIAN in English 7-8 Jun 80 p 3

[Report by John Monks]

[Text] US Navy scientists have been ordered to check waters in Western Australia where nuclear powered vessels docked last week, and are likely to be based in future.

The checks will virtually give the US a "radiation map" of Western Australian ports and docks including the navy installations at Cockburn Sound which are now almost certain to become the home port for a US Navy task force--including nuclear vessels.

In order to monitor the safety of the US nuclear ships it is necessary for scientists to check normal 'back' radiation levels — found everywhere in varying degrees — before an N-ship enters the area.

With that base figure any future nuclear leaks could be detected immediately.

The US checks, considered a necessary pre-requisite to any build-up in nuclear ships in the Indian Ocean, are quite separate from the stringent checks carried out at a Commonwealth-State level to monitor 'environmental radiation.'

The Australian checks are carried out regularly by technicians from the RAN, the Commonwealth-State Health Departments, and the Atomic Energy Commission.

Reports of findings following the Australian checks are made public by the Commonwealth Department of Science and the Environment but although nuclear vessels have called at most major Australian ports it was disclosed on Friday that no increase in radiation has ever been detected.

Added to that Australian checks are constantly made for leaks of gamma radiation while any nuclear material is in an Australian port. Again no such leaks have been detected with the most sensitive monitoring equipment available.

A spokesman for the Australian Atomic Energy Commission said on Friday 'Australians carry out a monitoring program around every berth or anchorage which is open to use by nuclear-powered warships. We also carry out a regular sampling program every three months collecting bottom sediment and seafood — fish, fauna and food — probably oysters and crayfish and so on too.'

In Washington the Pentagon confirmed that tests for the release of radioactivity would be done in WA waters where nuclear powered vessels docked last week.

Analyses of sea water, marine life and sedimentary samples from Fremantle harbor will be conducted by the US Navy and checked by the US Department of Energy, a spokesman said.

The Defence department, in response to concern at the use of Australian ports by nuclear vessels, will make public the results of the tests.

A number of US ships have been through Fremantle in the past few weeks, including the nuclear-powered USS Bainbridge, which docked with the Midway carrier group.

The Pentagon has been eager to de-fuse opposition that might form over possible use of Cockburn Sound because of concern at the possibility of radio-active leakage.

In a report compiled by the Nuclear Power Directorate, Naval Sea Systems Command Department of the US Navy, it is argued that there has been "no increase of radio-activity above normal background levels ... in harbor water where US naval nuclear-powered ships are based, overhauled or constructed."

The US Navy's guidelines for environmental monitoring come from a report made public this week by the US House of Representatives Armed Services Committee.

CSO: 5100

AUSTRALIA

ABORIGINES ALLEGE BREACH OF CONTRACT BY QUEENSLAND MINES

Canberra THE AUSTRALIAN in English 31 May-1 Jun 80 p 3

[Text] Allegations of broken promises by Queensland Mines Ltd to the aborigine community have disrupted the grand opening of the Nabarlek uranium mine, in the Northern Territory next Saturday.

The public flare up has also acutely embarrassed the Territory government in the approach to Saturday's election and threatens future negotiations on the development of the huge Pancontinental Jabiluka deposits and Noranda's Koongarra uranium project.

The Minister for National Resources, Mr Anthony, was to have officially opened the 1,080 tonnes a year yellowcake treatment plant, but has been told his attendance will not be required.

Other VIPs including the NT administrator, politicians and top civil servants from Canberra and Darwin have also been told of the change in plans.

The full scale mining operation is now to be officially opened in a simple ceremony by the chairman of Quennsland Mines, Mr Jim Millner, before a gathering of predominantly Japanese investors.

The aborigines claim the company has broken promises in the Environmental Impact Study relating to access to the mine, and that it has failed to build housing for traditional owners which it had pledged to finish in 1979.

The impact study said the company would transport goods and equipment to and from the Nabarlek site using two routes — the western route across Cahill's Crossing, and by barge and road from Darwin.

But the company has concentrated all of it's traffic on the Cahill's Crossing road, allegedly endangering the environment and risking injury to the many aborigines who use the route.

The aborigines also claim Queensland mines failed to build four houses for the principal traditional owner of the Nabarlek site, Mr Frank Nalowed, and his imnmediate family.

Mr Nalowed, an aged, one legged aborigine, fought bitter opposition to mining by other aboriginal groups in the area, and is credited with being largely responsible for the smooth go-ahead of the Nabarlek mine.

Queensland mines cancelled it's opening ceremony after the chairman of the Northern Lands Council Mr. Galarrwuy Yunupingu, threatened a boycott in protest at the mines' attitude to the road issue.

On May 29 Mr. Milliner cabled Mr Yunupingu that the ceremony was to be cancelled, saying he fully understood the Aborigine leader's position.

Mr Yunupingu and other tribal leaders have agreed to discuss the dispute with Queensland Mines officials after the mine opening.

Mr. Yunupingu said the dispute with Queensland mines could affect future negotiations for Pan Continental and Narranda because many of the traditional owners of Nabarlek were also involved with the other two.

"If the existing mining company won't do the things expected by the Northern Land Council under the terms and conditions of the agreement then they are damaging the future development of mining on aboriginal land"

CSO: 5100

UNIONS CONTINUE CAMPAIGN AGAINST URANIUM MINING

Electrical Trades Union Warned

Brisbane THE COURIER-Mail in English 22 May 80 p 8

[Text] The State Labor Relations Minister, Mr Campbell, warned the Electrical Trades Union yesterday not to expel any members for working at the Mary Kathleen uranium mine.

The union withdrew from the Mary Kathleen industrial agreement last month.

It joined other unions in banning equipment for uranium mines in a campaign to enforce the Australia Council of Trade Unions' uranium policy.

Mr Campbell said the threat by the Electrical Trades Union to expel memberss continuing to work Mary Kathleen uranium mine could be construed by the Industrial Court as "tyrannical or oppressive."

The Industrial Conciliation and Arbitration Act was quite explicit on union rules permitting expulsion and on the rights of members, he said.

An employee could apply to the industrial court to have disallowed any rule of a union threatening him with expulsion or imposing on him unreasonable conditions.

Mr Campbell said the ETU national executive recently had given members 28 days to withdraw from the mine site.

"ACTU president-elect and National ETU secretary (Mr C. Dolan) issued the ultimatum: "If they don't they will not be regarded as union members and action will be taken to expel them, if necessary," Mr Campbell said.

He said Mr Dolan had been backed by a Queensland ETU organiser, Mr R. Dempsey, who had been quoted as saying that the ETU would withdraw from the Mary Kathleen uranium industrial agreement.

Mr Campbell said the ETU had already threatened to cut off electrical supplies and equipment for Mary Kathleen.

Mr Dempsey had also said: "We warn electrical contractors not to go to the mines to install equipment, or they will be buying industrial strife."

Mr Campbell said he deplored the "blatant stand-over tactics," of the ETU and urged members to apply to the court under Section 49 of the I.C. and A. Act.

This section states that the court may, on its own motion or upon application, disallow any rule of any individual union which, in the opinion of the court —

- Is contrary to law, or to an order or award;
- Is tyrannical or oppressive either in its operation or as to the manner in which it was made or adopted;
- Prevents or hinders members of the industrial union from observing the law or the provisions of an order or award; or —
- Imposes unreasonable conditions upon the membership of any member or upon any applicant for membership, and any rule so disallowed shall be void.

"It was disgusting that, in a time of high unemployment, an organisation purporting to represent the interests of workers should deliberately seek to throw on the scrapheap men who wanted to work in an export industry of great importance to Australia," Mr Campbell said.

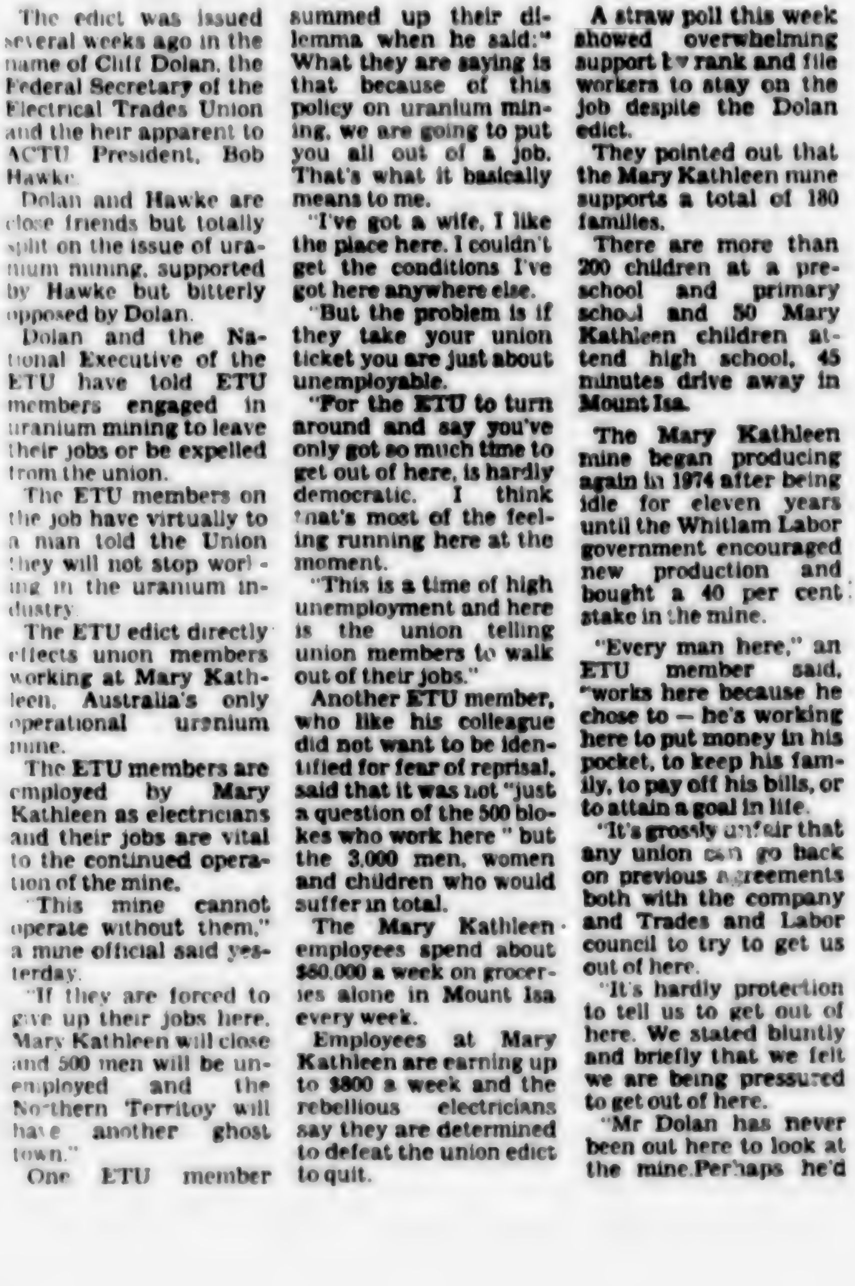
Mary Kathleen employed 300 people and in 1970 earned Australia 80 million dollars in export income.

Complaints by Union Members

Canberra THE WEEKEND AUSTRALIAN in English 31 May-1 Jun 80 p 5

[Report from Richard L'Estrange]

[Text] Rank and file trade unionists are in open revolt against an edict by the Electrical Trades Union to stop mining uranium.



The edict was issued several weeks ago in the name of Cliff Dolan, the Federal Secretary of the Electrical Trades Union and the heir apparent to ACTU President, Bob Hawke.

Dolan and Hawke are close friends but totally split on the issue of uranium mining, supported by Hawke but bitterly opposed by Dolan.

Dolan and the National Executive of the ETU have told ETU members engaged in uranium mining to leave their jobs or be expelled from the union.

The ETU members on the job have virtually to a man told the Union they will not stop working in the uranium industry.

The ETU edict directly effects union members working at Mary Kathleen, Australia's only operational uranium mine.

The ETU members are employed by Mary Kathleen as electricians and their jobs are vital to the continued operation of the mine.

"This mine cannot operate without them," a mine official said yesterday.

"If they are forced to give up their jobs here, Mary Kathleen will close and 500 men will be unemployed and the Northern Territoy will have another ghost town."

One ETU member summed up their dilemma when he said:" What they are saying is that because of this policy on uranium mining, we are going to put you all out of a job. That's what it basically means to me.

"I've got a wife, I like the place here. I couldn't get the conditions I've got here anywhere else.

"But the problem is if they take your union ticket you are just about unemployable.

"For the ETU to turn around and say you've only got so much time to get out of here, is hardly democratic. I think that's most of the feeling running here at the moment.

"This is a time of high unemployment and here is the union telling union members to walk out of their jobs."

Another ETU member, who like his colleague did not want to be identified for fear of reprisal, said that it was not "just a question of the 500 blokes who work here " but the 3,000 men, women and children who would suffer in total.

The Mary Kathleen employees spend about $60,000 a week on groceries alone in Mount Isa every week.

Employees at Mary Kathleen are earning up to $800 a week and the rebellious electricians say they are determined to defeat the union edict to quit.

A straw poll this week showed overwhelming support by rank and file workers to stay on the job despite the Dolan edict.

They pointed out that the Mary Kathleen mine supports a total of 180 families.

There are more than 200 children at a pre-school and primary school and 50 Mary Kathleen children attend high school, 45 minutes drive away in Mount Isa.

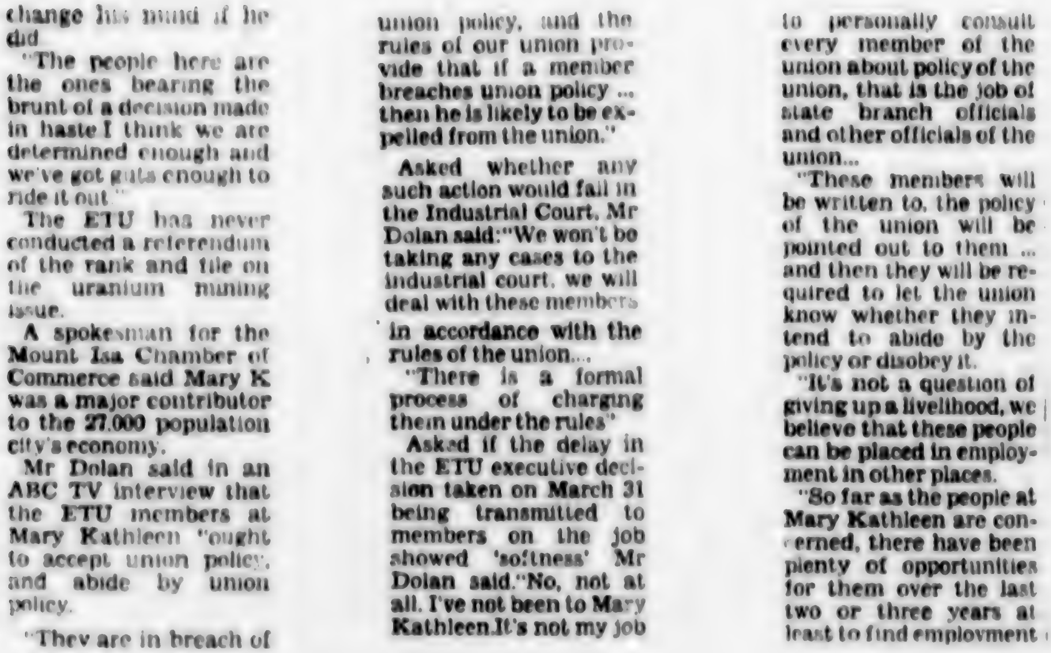
The Mary Kathleen mine began producing again in 1974 after being idle for eleven years until the Whitlam Labor government encouraged new production and bought a 40 per cent stake in the mine.

"Every man here," an ETU member said, "works here because he chose to — he's working here to put money in his pocket, to keep his family, to pay off his bills, or to attain a goal in life.

"It's grossly unfair that any union can go back on previous agreements both with the company and Trades and Labor council to try to get us out of here.

"It's hardly protection to tell us to get out of here. We stated bluntly and briefly that we felt we are being pressured to get out of here.

"Mr Dolan has never been out here to look at the mine.Perhaps he'd



change his mind if he did.

"The people here are the ones bearing the brunt of a decision made in haste I think we are determined enough and we've got guts enough to ride it out."

The ETU has never conducted a referendum of the rank and file on the uranium mining issue.

A spokesman for the Mount Isa Chamber of Commerce said Mary K was a major contributor to the 27,000 population city's economy.

Mr Dolan said in an ABC TV interview that the ETU members at Mary Kathleen "ought to accept union policy, and abide by union policy.

"They are in breach of union policy, and the rules of our union provide that if a member breaches union policy ... then he is likely to be expelled from the union."

Asked whether any such action would fail in the Industrial Court, Mr Dolan said: "We won't be taking any cases to the industrial court, we will deal with these members in accordance with the rules of the union...

"There is a formal process of charging them under the rules"

Asked if the delay in the ETU executive decision taken on March 31 being transmitted to members on the job showed 'softness' Mr Dolan said: "No, not at all. I've not been to Mary Kathleen. It's not my job to personally consult every member of the union about policy of the union, that is the job of state branch officials and other officials of the union...

"These members will be written to, the policy of the union will be pointed out to them ... and then they will be required to let the union know whether they intend to abide by the policy or disobey it.

"It's not a question of giving up a livelihood, we believe that these people can be placed in employment in other places.

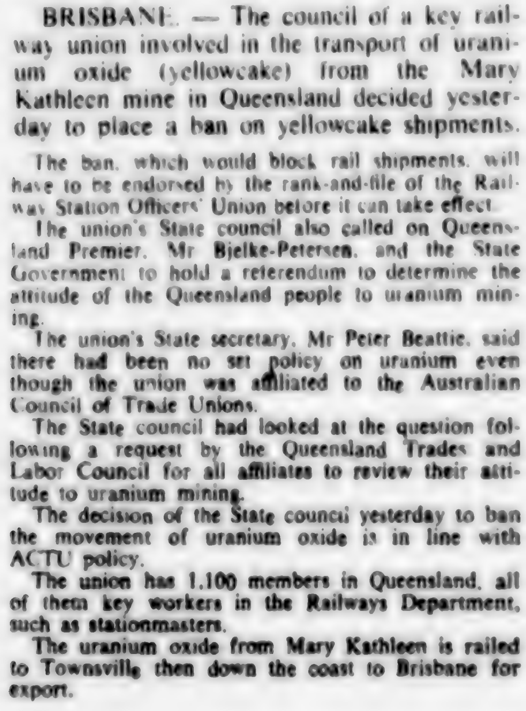
"So far as the people at Mary Kathleen are concerned, there have been plenty of opportunities for them over the last two or three years at least to find employment

[Item as published; last paragraph incomplete]

Ban on Yellowcake Shipments

Sydney THE SYDNEY MORNING HERALD in English 26 May 80 p 3

[Text]



BRISBANE. — The council of a key railway union involved in the transport of uranium oxide (yellowcake) from the Mary Kathleen mine in Queensland decided yesterday to place a ban on yellowcake shipments.

The ban, which would block rail shipments, will have to be endorsed by the rank-and-file of the Railway Station Officers' Union before it can take effect.

The union's State council also called on Queensland Premier, Mr Bjelke-Petersen, and the State Government to hold a referendum to determine the attitude of the Queensland people to uranium mining.

The union's State secretary, Mr Peter Beattie, said there had been no set policy on uranium even though the union was affiliated to the Australian Council of Trade Unions.

The State council had looked at the question following a request by the Queensland Trades and Labor Council for all affiliates to review their attitude to uranium mining.

The decision of the State council yesterday to ban the movement of uranium oxide is in line with ACTU policy.

The union has 1,100 members in Queensland, all of them key workers in the Railways Department, such as stationmasters.

The uranium oxide from Mary Kathleen is railed to Townsville then down the coast to Brisbane for export.

Queensland Premier's Warning

Brisbane THE COURIER-MAIL in English 27 May 80 p 3

[Text]

THE State Government would take legal action if it was presented with evidence that unions had stopped the shipping of yellowcake out of Queensland, the Premier, Mr Bjelke-Petersen said yesterday.

He was commenting on a recommendation by the State Council of the Railway Station Officers Union which could block rail shipments of yellowcake from Mary Kathleen uranium mine.

The union plans a secret postal ballot to determine whether the state council's recommendation will become policy.

The Premier said Queensland was trying to supply the world with uranium.

The Communist world received all the supplies it required.

The Australian Council of Trade Unions had called for the banning of the transport of yellowcake and this had eventually filtered through to the railway station officers.

Unions had blocked the transport of yellowcake in Sydney and Melbourne.

"I told the Prime Minister to send the yellowcake up here and I would load it, and we have loaded it," he said.

The Premier said if necessary the yellowcake could be carried on road transport.

Private operators could be used to prevent any protest by the Transport Workers Union.

"If anybody tries to deal with a private operator, give us a bit of evidence and we'll soon fix that one," the Premier said.

CSO: 5100

PRESS CONTINUES TO REPORT ON NUCLEAR TEST AFTER-EFFECTS

No Health Inquiries Planned

Sydney THE SYDNEY MORNING HERALD in English 16 May 80 p 2

[Text] Canberra.--There will be no Federal Government inquiry into the health of personnel involved in the British atomic tests in South Australia in the fifties, the Minister for National Development and Energy, Senator Carrick said yesterday.

The Government remained satisfied with official reports submitted at the time that everyone working at Maralinga, the test site, were subject to stringent health procedures. Equally, the Government continued to accept that the field activities of these people were strictly controlled and monitored to ensure they were not exposed to dangerous radiation.

"On the basis of evidence presently available, the Government is not convinced that the need has been established at this time for a full survey of the health of those Australians who were involved," Senator Carrick told the Senate.

The issue arose three weeks ago with the publication in newspapers of a previously undisclosed report by a former director of CSIRO's division of biochemistry about radiation levels in the air over South Australia at the time a series of tests were made in 1956.

He wrote that air samples had shown radiation levels up to 900 times higher than found in the air before the explosion.

The revelation of this report was accompanied by allegations that at least 37 people who worked at Maralinga during the tests had died from cancer or other diseases.

These people included ex-servicemen, Commonwealth policemen and civilians.

On the question of control and monitoring of field activities, it has been alleged by the Atomic Veterans' Association, a group formed recently in Queensland to gather information about possible effects of the tests, that safety measures were not always adhered to or enforced.

Separate allegations about the effects of the tests on Aboriginal people have been made in the past fortnight as the result of a survey carried out by Dr I. M. Cutler, of an Alice Springs Aboriginal health service.

The survey is said to show that at least 30, and possibly 50, tribal Aborigines have died after contact with a "black mist," believed to be fallout from tests at Emu Field in South Australia in 1953.

Senator Carrick said yesterday:

"To date, eight known compensation claims have been received for consideration under Commonwealth compensation legislation in connection with the Maralinga, Emu and Monte Bello tests. Three of these claims are under investigation and compensation has been granted in two of the five which have been considered.

"I also understand that during the past decade about six claims attributing the onset of cancer to atomic weapons tests in Australia have been examined by British authorities. In none of those cases have the authorities found evidence of exposure to nuclear radiation significantly above the natural background level or that cancer arose from other than natural causes.

"However, we fully appreciate the concern and uncertainty of many of the Australian personnel.

"Persons concerned are invited to come forward for interview and, if appropriate, medical examination."

Veterans' Appeal to 'Victims'

Sydney THE SYDNEY MORNING HERALD in English 17 May 80 p 3

[Text] The Australian Nuclear Veterans' Association yesterday urged possible victims of the British atomic weapons tests in Australia to put their names on the association's national register.

"It is now known that three generations may be affected by radiation and up to now most people have not been aware of this," the association's national secretary, Mr H Crosbie, said.

He said the association was anxious to get statutory declarations from people who:

- Flew through radioactive clouds from the Maralinga tests.
- Disposed of radioactive waste from Amberley.
- Worked on contaminated aircraft without protective clothing.
- Had their fingernails removed in order to locate radioactive particles.
- Lost their hair.
- Were treated in Government hospitals for radiation poisoning.
- Were aboard HMAS Sydney to observe the effects of atomic testing.
- Were at Monte Bello when the wind changed and a radioactive cloud came back over the area.
- Found aboriginal people in contaminated areas.
- Were subjected to duties which involved their being exposed to radiation.

Mr Crosbie said these people should contact the association direct or through State branches of the RSL.

The Federal Government has stated that it will not have an inquiry into the current health of Australians in the British atomic weapons tests during the 1950s.

Government Seeks Information

Perth THE WEST AUSTRALIAN in English 26 May 80 p 9

[Text] CANBERRA: The Federal Government was eagerly seeking information from people who wished to come forward with information of claimed deaths of Aborigines as a result of the Emu Field atomic tests in 1953, the Minister for National Development and Energy, Senator Carrick said.

It was asking individuals, whether Aboriginal or non-Aboriginal to come forward.

Senator Ronald Elstob (Lab, SA) asked why the Government had rejected an inquiry into the claims.

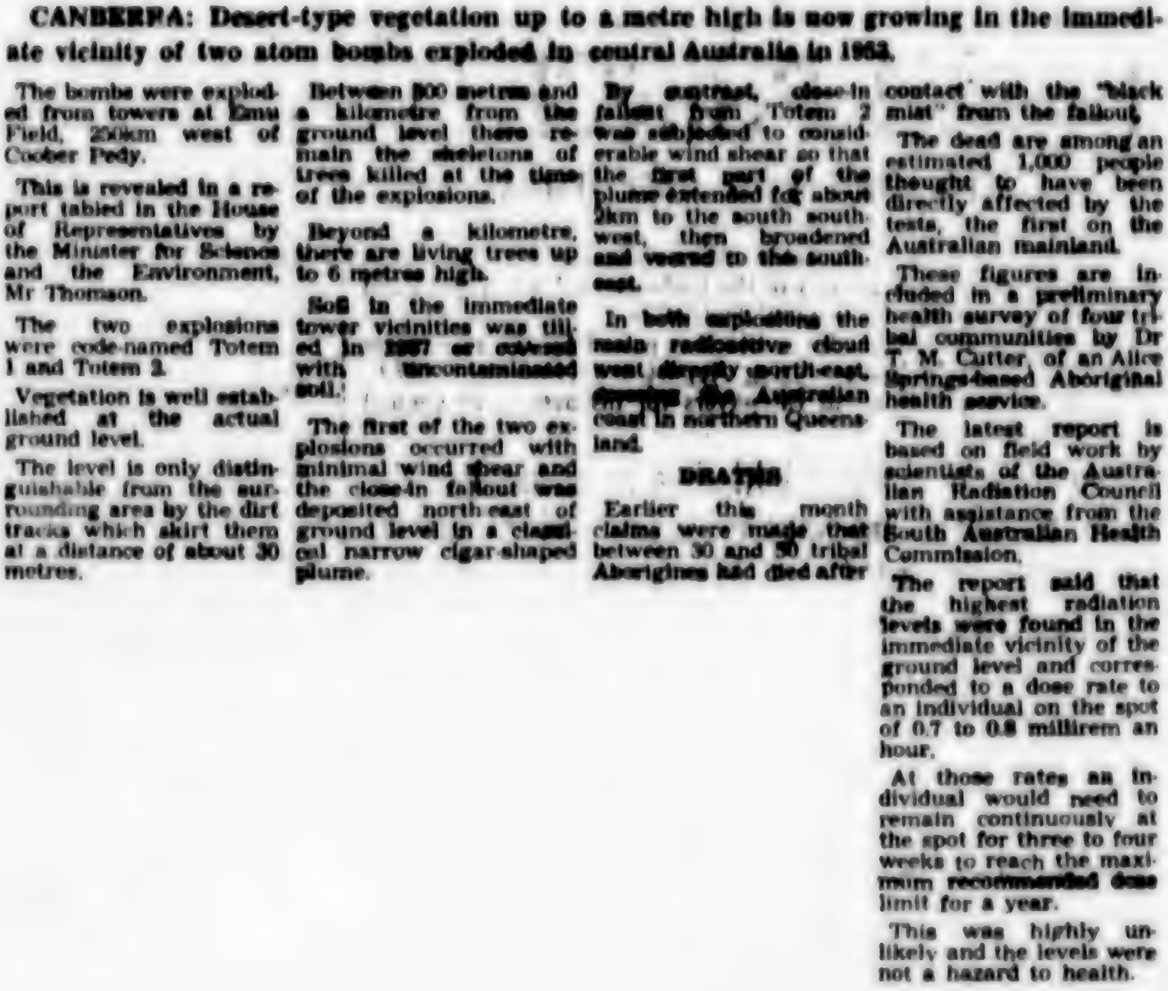
Senator Carrick said the Government at this stage would not seek a total, universal inquiry.

The Government was keen to get all the facts that it possibly could. It makes an open invitation to individual members of the public and is seeking the co-operation of the South Australian State Government in terms of the Aborigines.

Report on 1953 Test Site

Perth THE WEST AUSTRALIAN in English 24 May 80 p 24

[Text]



CANBERRA: Desert-type vegetation up to a metre high is now growing in the immediate vicinity of two atom bombs exploded in central Australia in 1953.

The bombs were exploded from towers at Emu Field, 250km west of Coober Pedy.

This is revealed in a report tabled in the House of Representatives by the Minister for Science and the Environment, Mr Thomson.

The two explosions were code-named Totem 1 and Totem 2.

Vegetation is well established at the actual ground level.

The level is only distinguishable from the surrounding area by the dirt tracks which skirt them at a distance of about 30 metres.

Between 300 metres and a kilometre from the ground level there remain the skeletons of trees killed at the time of the explosions.

Beyond a kilometre, there are living trees up to 6 metres high.

Soil in the immediate tower vicinities was tilled in 1957 or covered with uncontaminated soil.

The first of the two explosions occurred with minimal wind shear and the close-in fallout was deposited north-east of ground level in a classical narrow cigar-shaped plume.

By contrast, close-in fallout from Totem 2 was subjected to considerable wind shear so that the first part of the plume extended for about 2km to the south south-west, then broadened and veered to the south-east.

In both explosions the main radioactive cloud went directly north-east, crossing the Australian coast in northern Queensland.

DEATHS

Earlier this month claims were made that between 30 and 50 tribal Aborigines had died after contact with the "black mist" from the fallout.

The dead are among an estimated 1,000 people thought to have been directly affected by the tests, the first on the Australian mainland.

These figures are included in a preliminary health survey of four tribal communities by Dr T. M. Cutter, of an Alice Springs-based Aboriginal health service.

The latest report is based on field work by scientists of the Australian Radiation Council with assistance from the South Australian Health Commission.

The report said that the highest radiation levels were found in the immediate vicinity of the ground level and corresponded to a dose rate to an individual on the spot of 0.7 to 0.8 millirem an hour.

At those rates an individual would need to remain continuously at the spot for three to four weeks to reach the maximum recommended dose limit for a year.

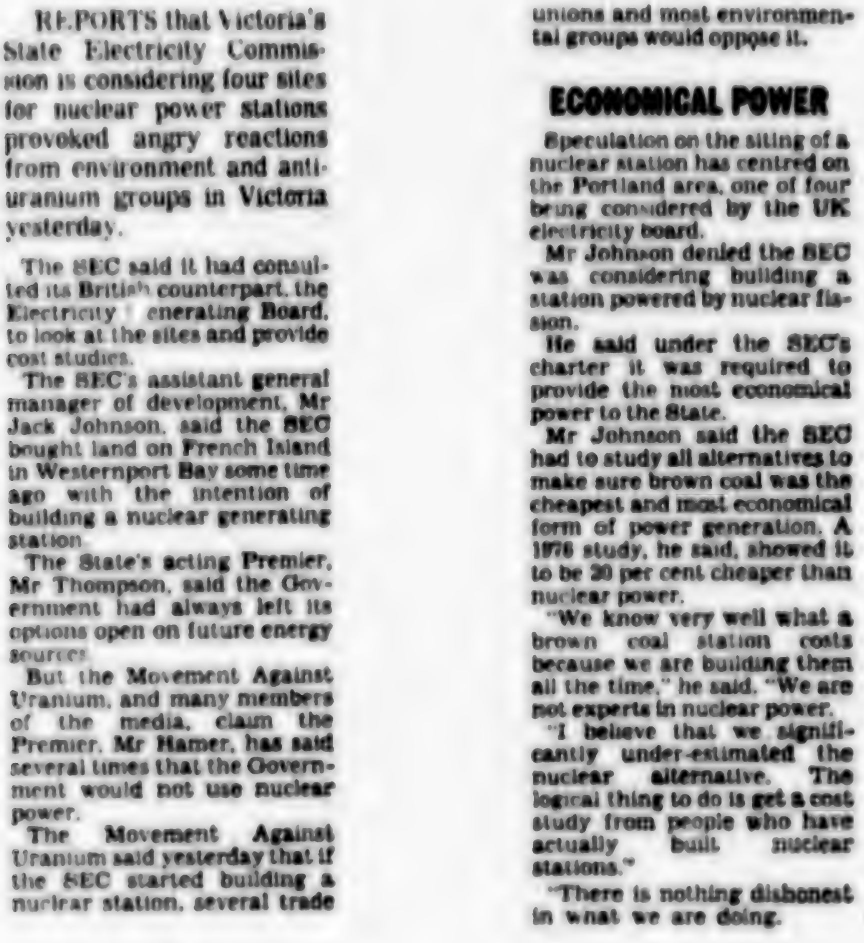
This was highly unlikely and the levels were not a hazard to health.

CSO: 5100

VICTORIA'S CONSIDERATION OF NUCLEAR POWER BRINGS HOSTILITY

Canberra THE AUSTRALIAN in English 25 Jun 80 p 3

[Text]



REPORTS that Victoria's State Electricity Commission is considering four sites for nuclear power stations provoked angry reactions from environment and anti-uranium groups in Victoria yesterday.

The SEC said it had consulted its British counterpart, the Electricity Generating Board, to look at the sites and provide cost studies.

The SEC's assistant general manager of development, Mr Jack Johnson, said the SEC bought land on French Island in Westernport Bay some time ago with the intention of building a nuclear generating station.

The State's acting Premier, Mr Thompson, said the Government had always left its options open on future energy sources.

But the Movement Against Uranium, and many members of the media, claim the Premier, Mr Hamer, has said several times that the Government would not use nuclear power.

The Movement Against Uranium said yesterday that if the SEC started building a nuclear station, several trade unions and most environmental groups would oppose it.

ECONOMICAL POWER

Speculation on the siting of a nuclear station has centred on the Portland area, one of four being considered by the UK electricity board.

Mr Johnson denied the SEC was considering building a station powered by nuclear fission.

He said under the SEC's charter it was required to provide the most economical power to the State.

Mr Johnson said the SEC had to study all alternatives to make sure brown coal was the cheapest and most economical form of power generation. A 1976 study, he said, showed it to be 20 per cent cheaper than nuclear power.

"We know very well what a brown coal station costs because we are building them all the time," he said. "We are not experts in nuclear power.

"I believe that we significantly under-estimated the nuclear alternative. The logical thing to do is get a cost study from people who have actually built nuclear stations."

"There is nothing dishonest in what we are doing.

CSO: 5100

AUSTRALIA

CONFUSION OVER POLICY HAMPERS UNION ANTI-URANIUM DRIVE

Brisbane THE COURIER-MAIL in English 18 Jun 80 p 13

[Text]

UNCERTAINTY over a possible ban at Mary Kathleen uranium mine in north Queensland is hampering an anti-uranium campaign by unions.

The problem lies with the interpretation by key unions of the Australian Council of Trade Unions stand on Mary Kathleen.

The ACTU Congress in Melbourne last year reaffirmed its opposition to uranium mining and export. But Mary Kathleen previously was exempted to allow it to fulfil existing contacts.

The confusion over the ACTU policy has caused the postponement of a meeting of Queensland Trades and Labor Council affiliated unions to step up the anti-uranium campaign.

TLC secretary, Mr Fred Whitby, said yesterday: "Our executive this morning affirmed it is pointless calling all affiliates together until key unions clarify their positions".

A June 11 meeting of seven unions with members at Mary Kathleen also was unable to resolve the issue.

"Some of the unions believe that the debate at the 1979 ACTU Congress clearly spelt out that Mary Kathleen was still exempted," Mr Whitby said.

Some unions were not satisfied with the ACTU executive interpretation in Hobart last month that its policy covered the mine.

Mr Whitby said two major unions at the mine — the Amalgamated Metal Workers and Shipwrights' Union and the Federated Engine Drivers and Firemen's Association — would review the issue fully at major conferences soon.

FEDFA state secretary, Mr Bill Stone said last night he disagreed with the ACTU executive's interpretation. The union's policy since 1976 was to supply labor to Mary Kathleen to allow it to honor its contracts.

He believed last year's ACTU congress reaffirmed that view.

"We will be looking at the position again when our state committee of management meets in Cairns on July 7. But I can't see any change."

Secretary of the AMWSU, Mr Vaughan said: "There is still much confusion over the ACTU's interpretation."

The union's national conference later this month would discuss the issue.

The Australian Workers' Union, which has the largest number of members working at Mary Kathleen, supports uranium mining.

CSO: 5100

AUSTRALIA

BRIEFS

ELECTRICITY CHIEF'S PREDICTION--Nuclear power will make a dramatic inroad into electric power supply, the chairman of the State Electricity Commission, Mr Charles Trethowan, said yesterday. He said two-thirds of the world's energy in 2020 would come from coal, the suan and uranium. "Nuclear fission's wider use will come for its dramatic penetration of electric power supply," Mr Trethowan said. "Electricity production will be 45 per cent nuclear by the year 2000 and 60 per cent by 2020." He told the Australian Institute of Energy's annual conference in Melbourne that electricity was the most effective way of introducing substitute fuels into the energy economy. "Electricity deman is expected to increase six-fold by 2020, and this will not be met without a major contribution by nuclear power," Mr Trethowan said. "Some of the problems here are self-evident, particularly the winning of public confidence in uranium and political support." Some countries rich in fuel resources, including Australia, might be able to maintain their economies without large nuclear programmes, but they would be essential in other countries. The SEC chairman said there were already more than 236 nuclear power stations in Europe and the United States. "Undoubtedly there will be more as traditional fossil fuels, such as oil and coal, are depleted," he said. [Text] [Melbourne THE AGE in English 27 May 80 p 3]

WARNING AGINST ENRICHMENT PLANT--Adelaide.--Public expenditure in support of a uranium enrichment plant in Australia would be ill-advised, according to a senior scientist in the Institute for Energy Studies at Flinders University. Associate Professor Henk de Bruin told an ANZAAS Congerss symposium yesterday that it was a "very nervous" industry and one which Australia would do well to avoid. "The projected demands for nuclear power in the western world have consistently decreased and even on the most optimistic estimates there will be a glut on the eneriched uranium market until close to the turn of the century," he said. "An Australian enrichment industry can only aggravate the commercial nuclear war, public expenditure in support of this huge enterprise is ill-advised." He warned that the environmental impact was considerable, with only between 10 and 15 percent of the uranium ore being exported as enriched raw materials for fuel production. The remainder, the depleted uranium tailing, would need to be isolated from the human environment. [Text] [Brisbane THE COURIER-MAIL in English 16 May 80 p 11]

FREMANTLE NUCLEAR-FREE ZONE--The Mayor of Fremantle, Mr W. A. McKenzie, said yesterday that plans should be worked out to protect the public against a nuclear accident. He was commenting on the Fremantle council's decision to declare the municipality a nuclear-free zone. The council's decision does not invlove the visit of nuclear-powered ships but is against the transportation of nuclear material through Fremantle. If the decision results in a by-law it would stop the shipping of processed uranium yellowcake through the port. The council, by 14 votes to two, resolved that it was opposed to any nuclear facility being built at Fremantle. Mr McKenzie said yesterday that the council was worried about the frequency of nuclear mishaps in other parts of the world and the possible harm or threat they could bring to Fremantle. [Excerpt] [Perth THE WEST AUSTRALIAN in English 21 May 80 p 11]

WEAPONS TEST SITES--Canberra, may 22 (AFP)--The Emu atomic weapons test sites in central Australia will be clearly marked by a substantial concrete block. The two areas will carry in plain language radiation warning signs. These recommendations of the Australian Ionising Radiation Advisory Council are expected to be adopted by the Australian Government as a result of this study made since September 1978. The council suggests that the two areas should carry in plain English the following words: "Levels of radioactivity at this point and for a few hundred metres around may be above those considered safe for permanent occupation, but are acceptable for short stays." The Emu atomic weapons test sites are in the Great Victoria Desert of South Australia and have been the centre of controversy ever since the trials in October 1953 by a joint Anglo-Australian team. [Text] [OW221005 Hong Kong AFP in English 0853 GMT 22 May 80]

OLD NUCLEAR TESTS RESIDUAL EFFECTS--Canberra, May 23 (AFP)--Levels of residual radiation at former nuclear test sites in western Australia and south Australia still pose a health hazard, according to the Australian Ionising Radiation Advisory Council (AIRAC). The minister for national development and energy, Senator J. Leslie Carrick, announced today that, in accordance with AIRAC's recommendations, a series of programs have been completed for management of residual radioactivity at former nuclear test sites on the Monte Bello Islands of western Australia and at Maralinga and Emu in south Australia. [Text] [OW230923 Hong Kong AFP in English 0900 GMT 23 May 80]

JAPAN-U.S. ACCELERATOR-RELATED TECHNOLOGY--Mito, May 20, KYODO--Japan and the United States agreed here Tuesday to begin joint development of accelerator-related technology for high energy physics in fiscal 1981 starting next April. The agreement came at a two-day meeting of the Japan-U.S. High Energy Physics Committee which ended at the High Energy Physics Institute at the academic city of Tsukuba, southwest of here, the same day. The committee was formed under the Japan-U.S. energy research and development agreement concluded a year before. After holding the first meeting in the U.S. last November, the committee is serving the exchange of Japanese and American scientists in high energy physics. [Text] [OW201251 Tokyo KYODO in English 1230 GMT 20 May 80]

LIBYAN-CAMEROONIAN COOPERATION--Sources in the Government of Cameroon said that Cameroon President Ahmadou Ahidjo received a proposal from Libyan President Colonel Mu'ammar Qadhdhafi for the two countries to collaborate in the exploitation of Cameroon's uranium. According to these Cameroonian sources the proposal was made for Libya to give whatever investment funds were needed for the "Kribi" uranium mines, in return for which Libya would get a share of the mined ore. As a result of this, Cameroon is already facing pressures that aim to block its consent to this offer in order to prevent Libya from obtaining this uranium--something that would enable Libya to turn into a nuclear power. [Text] [Paris AL-MUSTAQBAL in Arabic 7 Jun 80 p 45]

URANIUM SEARCH EXPANDING--Perth.--Explorer Cliffminex NL is expanding in its search for uanium into the Eucla Basin of Western Australia. Until now, Cliffminex's uranium interests have centred on the Minindi Creek area east of Carnarvon in the northwest. Chairman Mr P.A. Engelbrecht said yesterday that negotiations had been completed with an Australian partner to explore two temporary reserves and surrounding areas of the Eucla Basin. He said that full details of the joint venture would be released on completion of the formal documents. The joint venture would be on a 50-50 basis, but Cliffminex would be required to fund the first year's expansion activities. [Text] [Brisbane THE COURIER-MAIL in English 17 Jun 80 p 24]

FREMANTLE NUCLEAR-FREE PLAN--The Fremantle City Council hopes to take its nuclear-free zone plan a step further by incorporating it in its town planning scheme. A motion to define nuclear power as a noxious industry and therefore prohibited under the scheme will be discussed on Monday night. The city's building and planning committee has recommended that the definition of noxious industries be widened to include nuclear power stations and the storage of uranium, nuclear wastes and other associated materials. Since 1970, the council has banned the establishment of noxious industries within its boundaries. The city planner, Mr Robert Henwood, said yesterday that the new move was a simple way to give effect to the declaration of a nuclear-free zone. The ultimate decision would rest with the Minister for Town Planning, Mrs Craig. There was no right of appeal. [Text] [Perth THE WEST AUSTRALIAN in English 14 Jun 80 p 12]

NABARLEK MILL COMPLETED--Queensland Mines announced yesterday that construction of the uranium mill at Nabarlek had been finished. Commissioning of the plant is still in progress but production of uranium has begun on schedule and the plant is operating at full capacity. The Nabarlek deposit was discovered in 1970 but it took nine years to obtain the necessary approvals to develop the project and one year to build the plant. [Text] [Melbourne THE AGE in English 12 Jun 80 p 18]

ZAMBIAN URANIUM EXPLORATION--Tokyo, 16 May--Japan signed an agreement with Zambia in Lusaka Friday on exploration for uranium resources in that country, the Power Reactor and Nuclear Fuel Development Corporation has announced. The corporation said that it has been granted the right under the agreement to engage in exploration of uranium resources in The Sinazongwe sector in southern Zambia. It said it will start exploration work during this fiscal year. The agreement was signed between the corporation and the Minerals and Materials Committee of Zambia. [Text] [Tokyo KYODO in English 0053 GMT 16 May 80 OW]

ITALIAN-IRAQI NUCLEAR CONTRACT--Beirut, May 20 (ANSA)--The glowing prospects for Italian business and industry in Iraq outlined by Iraqi Trade Minister Alin during his recent visit to Rome have been confirmed by Iraqi commercial sources here. Among the other contracts now being negotiated is an 800 million dollar deal for conventional and nuclear power plant equipment being bid on by GIE in a consortium with other foreign firms. [Excerpts] [AU200950 Rome ANSA in English 0830 GMT 20 May 80]

CSO: 5100

INDIA

ENOUGH PLUTONIUM TO MAKE 20 NUCLEAR BOMBS

Islamabad THE MUSLIM in English 17 Jun 80 p 1

[Text] NEW DELHI, June 16: India possesses enough plutonium outside international safeguards and tested technology to produce 15 to 20 nuclear bombs within weeks of a political decision to do so.

For 20 years India has had a nuclear fuel cycle outside international safeguards. She had its own uranium irradiated in the 40 MW cirus reactor given by Canada with its own reprocessing plan for seperation of plutonium.

According to conservative estimates India could have accumulated in 20 years over 100 kg of unsafeguarded plutonium. Since India in 1974 tested explosive configuration or plutonium, and miniaturised trigger technology, it should not be difficult for New Delhi to assemble nuclear bombs within a relatively short period.

India has at present two reprocessing plants which produce plutonium outside safeguards. The reprocessing plant at Bhabha Atomic Research Centre (BARC), Bombay, was commissioned in 1964 with capacity of 30 tonnes. It seperates plutonium from unsafeguarded fuel. The reprocessing plant at Tarapur, also produces plutonium outside safeguards. A third reprocessing plant is reportedly under construction at BARC.

Two more nuclear reactors for power and plutonium production outside international atomic energy agency safeguards are under construction in India. Madras Atomic Power Station (MAPS) at Kalpakkam, is in fairly advanced stage of construction. Its current approved cost is Rs. 1.79 millions for the first unit and Rs. 1.90 million for the second. The second station under construction is Narora Atomic Power Station (NAPS) in U.P. Its first unit is to be completed in 1984 and second in 1985. Its revised cost is estimated at Rs. 3274 million. Both these stations are outside IAEA safeguards.

Besides these two unsafeguarded nuclear power and plutonium reactors, India has two more nuclear power reactors, which are subjected to international safeguards. They are Tarapur Atomic Power Station (TAPS), at Rana, Pratap Sagar in Rajasthan. Latter's first unit with project cost of Rs. 733 million dollars is operational since 1973. Rape-II with project cost of Rs. 115M dollars is expected to be operational this year.

Two more heavy water plants with combined annual capacity of 163 tonnes are expected to be operational shortly, in addition to three heavy water plants with combined capacity of 152 tonnes which are already operational.

Talcher (Andhra Pradesh), heavy water plant, has already been completed at a cost of 70 million dollars and is expected to go into production in 1981. Its capacity is 63 tonnes.

Kota (Rajasthan) heavy water plant with a capacity of 100 tonnes is expected to be operational in November 1981. Its cost is estimated at 80 million dollars.

These plants are in addition to Nagal (Rajasthan), Tuticorin (Karnataka) and Baroada (Gujrat), which are already operational with combined capacity of 152 tonnes.

As regards fuel fabrication facilities in India, uranium metal plant at BARC, Bombay is being expanded to meet fuel requirements of Canadian cirus and R-5, a thermal neutron, natural uranium reactor at BARC, Indian Nuclear Fuel Complex at Hyderabad produces fuel for elements, calandria tubes etc., for power reactors and also high purity metals and materials for electronics industry.

Five organisations in India are busy in separating mineral sands to produce nuclear material. They are: Indian Rate Earths LTD in Kerala, which undertakes the seperation of mineral sands and extraction of rare earths from monasite, Government Thorium Plant at Trombay near Bombay, Mineral Sands seperation Plant at Orissa, Synthetic Rutile Plant in Orissa and Uranium Corporation of India LTD.

Indian nuclear programme has been invigorated since coming into powers of Indira Gandhi in January this year. It was she who gave go ahead for the Pokhran test in 1974. During Mr. Desai's regime articles were read in the Press, obviously based on briefings by Indian scientists, criticising the Government's discouragement of further nuclear research.

In its election manifesto, Mrs. Gandhi's Congress promised: "frustration in the scientific community will be removed, India's sovereign right to use nuclear technology for her development on peaceful lines will be safeguarded."

The Indian Nuclear Scientists Community's silence suggests it has got the go ahead it had soought. There are even reports to the effect that Indira Gandhi has directed the concerned department to prepare for another test.—APP

CSO: 5100

DELHI COMMENTARY URGES SELF-RELIANCE IN ATOMIC ENERGY

BK191419 Delhi General Overseas Service in English 1000 GMT 19 May 80

[Commentary by Mahendra Kumar]

[Text] The delay that is occurring in the supply of enriched uranium by the United States for the Tarapur powerplant near Bombay has raised the question of how far India is able to meet this challenge. No doubt the unanimous decision of the Nuclear Regulatory Commission of the United States does not stop President Carter from issuing Executive order for sending the enriched uranium. But the American Congress has the power to override Mr Carter's Executive order within 2 months. If, within this period, the Congress passes a resolution against this order by a two-thirds majority, the issue will once again go to the Nuclear Regulatory Commission and the same vicious circle will start once more.

But even if the Congress does not override the Executive order of the President, the order has to lie before it for 2 months. That means that at least for 2 months there is going to be no shipment of enriched uranium to India, and after that, also, it will be possible only if the Congress does not take any action against it.

The question naturally arises, what will be the fate of the Tarapur powerplant if the supply of enriched uranium is delayed too much or does not come at all. Fortunately, India is not in such a desperate condition as might have been imagined in certain circles. In the development of [word indistinct] conventional technology such as large-scale steel production and fertilizer plants, India relied on imported know-how and equipment. It was later that Indians were trained to operate and maintain these plants on their own. But it was quite different in the case of atomic technology. In this field, India consciously chose the slower and harder path of development aimed at self-reliance.

The strategy was to develop a cadre of scientists and engineers in the research and development of institutions which grew gradually with the development of indigenous know-how in various fields. Foreign know-how was invited, but only on a very selective basis. Much ground work was done indigenously. What is more, it was done with fullest participation of the Indian people, not only to assimilate the new technology but to adapt it to the Indian conditions and improve upon it.

Consequently, India has reached a stage to have the indigenously developed know-how and the infrastructure to design, constuct and operate any plant. The result was that even when the first reactor was set up, which became critical in 1966, Indian scientists and engineers did not look towards any other country for such a reactor. They set it up on their own. At that time it was the only reactor of its type in Asia outside the Soviet Union.

Why was there so much emphasis on self-reliance? It was felt from the very beginning that countries possessing advanced technology would not be willing to part with it except on a selective basis and at increasing prices. Even then, they would part with it only in areas which suited their purpose. In the field of nuclear energy, the developed countries had resorted to restricted trade practices from the very beginning. As a result, with the emphasis on self-reliance India has now fortunately reached a stage where disruptions in nuclear supplies will not lead to any serious setback to the nuclear energy development program. At the most they may result in some temporary delays and perhaps increase in cost.

This program can now be developed on the basis of national decisions taking into account the country's own requirements and priorities and not subject to the whims and frenzies of others. The development strategy was chalked out keeping in view the aim of self-reliance. It was taken into account that while the uranium reserves of the country are limited, the thorium reserves are amongst the largest in the world. A program was, therefore, chalked out which was not based on the model of the Western countries but was tailored to the needs and resources of India. The Tarapur atomic powerplant was the first and the only nuclear power station which required enriched uranium as a fuel. But many modifications have been made in it since it was set up and now it can be said with confidence that it will not have to stop functioning if America chooses not to honor its commitment.

CSO: 5100

MAGNETITE RECOVERY PLANT OPENED AT JADUGUDA

New Delhi PATRIOT in English 29 Apr 80 p 3

[Text] A full-scale magnetite recovery plant has been commissioned by the Uranium Corporation of India Limited (UCL) at Jaduguda Bihar reports UNI.

So far the UCIL has been operating a small pilot plant facility with the larger plant it will be now possible to produce about 6500 tonnes of magnetite per annum.

The UCIL is a public sector undertaking of the Department of Atomic Energy (DAE) engaged in mining and processing of uranium ore at Jaduguda.

One of the aims of the corporation is to recover every mineral present in the uranium ore in the most economic way possible. The scaling up and commissioning of the magnetite plant is a step in that direction according to DAE.

The ore mined at Jaguguda contains about three percent magnetite and the mineral is recovered from the mill tailings before they are pumped out for final disposal.

Magnetite is used in the coal washeries for a heavy media separation.

The corporation already recovers copper and molybdenum, present in small quantities in uranium ore in its byproduct recovery plant.

UCIL is at present investigating the feasibility of recovering yet another useful element--nickel from uranium ore, according to journal NUCLEAR INDIA published by the Bhabha Atomic Research Centre.

CSO: 5100

BRIEFS

'YURI' EQUIPMENT FAILURE--Tokyo, 21 May, KYODO--Japan's National Space Development Agency announced Wednesday that one of the two transmission devices aboard the experimental stationary satellite "Yuri" (lily) has broken down and is no longer functioning. Yuri was launched in 1978, and the government was shortly to begin tests on sending and receiving radio waves and television screen images via the satellite. The one-year experiment was designed to back up conventional ground-to-ground telecommunications networks in case of emergency. The equipment on board was largely produced by General Electric of the U.S. Officials now expect that the planned tests will have to be revised. [Text] [OW211317 Tokyo KYODO in English 1248 GMT 21 May 80]

CSO: 5100

SURVEY OF CEMA COOPERATION PROJECTS IN ENERGY SPHERE

LD201401 Moscow EKONOMICHESKAYA GAZETA in Russian No 20, Signed to press 12 May 80 p 20

[Article by A. Obortov under the rubric "Cema: Integration in Action": "Collaboration Among Power Industry Workers"]

[Excerpts]

Improving the work of the integrated electric power systems is regarded as one of the most important directions in the development of the CEMA countries' fuel and energy complex. With the help of the integrated electric power systems it is planned to create the conditions for the fuller incorporation in economic circulation of countries' own existing hydroelectric power resources and fuel reserves, the intensive development of nuclear power, the formation of the optimum structure of generating capacities and the fuller realization of the technical and economic advantages of parallel working by state power systems. On the agenda are questions of erecting various energy projects by the joint efforts of interested countries, particularly main electric power supply systems with a tension of 750 kilovolts, and of carrying out joint research and design work with a view to further refitting the sector on a modern technical basis.

The Construction of New Nuclear Power Stations

In Many CEMA countries nearly all the growth in electric power consumption up to 1990 is to be provided for in the main from the development of the nuclear power industry. Herein lies, in essence, the meaning and major national economic significance of the program for the construction of nuclear power stations in the fraternal countries with a total capacity of 37 million kilowatts, which amounts to one-third of their entire electric power potential at present. This will yield an annual saving of 75 million tons of fossil fuel (in standard terms).

At present the capacity of nuclear power installations which have been created in the fraternal states totals more than 3.7 million kilowatts. Last year the construction of the second phase of the Nord atomic power station was completed in the GDR. Its planned capacity reached 1.76 million kilowatts. A second Vver-440 unit has recently been switched on to join the power system at the Bohunice atomic power station in Czechoslovakia. The construction of the Paks atomic power station in Hungary has entered the final stage, and it is planned to commission the first phase this year. New capacities are being created at the Kozloduy atomic power station in Bulgaria. Preparatory work is taking place for the construction of nuclear power stations in Cuba and Poland.

The Soviet Union gives technical assistance to the socialist community countries in the construction of nuclear power stations. At the same time our country is opening up new paths for the nuclear power industry. The creation of the main Wer-1000 unit, with a unit capacity of 1 million kilowatts, is being completed at the Novovoroneshskaya AES, one of the biggest in the country. In a few years' time such units will find wide application in the European CEMA countries. A powerful experimental and commercial fast neutron reactor has been launched at the Beloyarsk nuclear power station.

The Soviet Union has embarked on the construction of the Khmelnitskaya AES, together with interested countries. A multilateral agreement on its construction was signed last summer. Talks are also under way on the joint construction of the Konstantinovskaya AES in the USSR. By 1990 the volume of electric power supplies from the two stations to the European socialist countries taking part in the construction work could amount to 20-22 billion kilowatt-hours a year.

Special significance is attached to the production of equipment for nuclear power stations uner construction. In 1977 the CEMA session approved a program for the maximum possible development of nuclear power machine building. Unique in terms of its scale and the complexity of the problems being resolved is the agreement on international specialization and production sharing and reciprocal deliveries of equipment for nuclear power stations for the period 1981-1990, signed in Moscow during the 33d CEMA session. Its implementation of the program for developing the nuclear power industry in the community. On the basis of the international socialist division of labor, about 50 industrial associations and enterprises in Bulgaria, Hungary, the GDR, Poland, Romania, Czechoslovakia, the USSR and Yugoslavia are to be involved in cooperation, being allocated a certain range of production and volume of deliveries of equipment for nuclear power stations. An intergovernmental commission at the level of deputy heads of government has been set up to coordinate work in fulfilling that agreement.

Interstate Electric Power Transmission Lines

An important aspect of the long-term development of the integrated electric power systems is the erection of new interstate electric power transmission lines. Calculations show that the optimum version for the integrated electric power systems is the creation of a main electricity grid with a tension of 750 kilovolts, which must be supplemented by grids with different classes of tension.

Two powerful interconnected cycles of power transmission lines with a tension of 750 kilovolts--the Northern and the Southern--with a total length of more than 7,400 km are to be formed on the territory of the European socialist countries and the USSR.

They will make it possible to ensure highly reliable parallel work by the integrated electric power systems, to carry out exchanges of tremendous flows of electric power, to offer an intersystem capacity of 4,400 megawatts and give the countries a real saving in capital investments to the extent of about R400 million (at 1975 prices) and to create the conditions for the commissioning of power units with a unit capacity of 1,000 megawatts and more and for providing mutual emergency assistance on a significant scale.

The first important step toward the formation of the main grid of the integrated electric power systems was the introduction into commercial operation in early 1979 of the 750-kilovolt power transmission line from Vinnitsa (USSR) to Albertirsa (Hungary), which was constructed by the joint efforts of Bulgaria, Hungary, the GDR, Poland, the Soviet Union and Czechoslovakia. The fundamental significance of this power transmission line lies in the fact that it laid the foundations for parallel work by the Mir power system and the USSR's unified power system. The world's biggest international power association was formed.

In the current 5-year plan another four 400-kilovolt power transmission lines have been constructed, namely the lines from Hradec (Czechoslovakia) to Relersdorf (GDR), Gydr (Hungary) to Podunajske Biskarice (Czechoslovakia), Albertirsa (Hungary) to Levice (Czechoslovakia), and Rybnik (Poland) to Nosovice (Czechoslovakia) and Albrechtice (Czechoslovakia). Another major project will be the 750-kilovolt power transmission line from the USSR to Poland. An agreement was concluded on its joint construction by Hungary, Poland, the GDR, the USSR and Czechoslovakia in March 1978. The line will make it possible to transmit 12 billion kilowatt-hours of electricity from the Khmelnitskaya AES to the countries concerned.

Also under examiniation is the question of the construction of a 750-kilovolt power transmission line linking the USSR, Romania and Bulgaria, which will make it possible not only to ensure deliveries of electric power from the Konstantinovskaya AES to Bulgaria and Romania, but also to significantly increase the reliability of the working of the southeast section of the integrated electric power systems.

The CEMA member countries are waging a struggle for the raional and economical expenditure of energy resources in all sectors of the national economy, including in the electric power industry itself. The proportional expenditure of fuel is being reduced at thermal power stations, the electric power expenditure of thermal and nuclear power stations for their own needs is being reduced, and also losses in electricity grids are being cut. Targets in this sphere are included in economic and social development plans. Their fulfillment has become an important state affair. The planned nature of work in saving fuel and energy resources is yet another advantage of the socialist economic system. This work has taken on great scope in the GDR. For instance, the task set for the current 5-year plan (1976-1980) of an annual reduction in power-intesiveness in industry of 4.7-5.0 percent and of 2.8-3.0 percent in electricity-intensiveness is being successfully resolved in the republic. That means that in the current 5-year plan a saving of 40 million tons of fuel in terms of run-of-the-mine brown coal will be achieved. However, there are still tremendous reserves in this sphere in the CEMA countries. At present comprehensive measures are being elaborated in the council's organs aimed at increasing the efficiency of fuel utilization in the electric power sphere.

The results achieved in the implementation of the general plan in recent years are convincing evidence of the accelerating process of socialist economic integration in a key sector of material production.

CSO: 5100

SOVIET DELEGATION ARRIVES IN PRAGUE FOR TALKS

Arrival in Czechoslovakia

LD252250 Prague CTK in English 2003 GMT 25 May 80

[Text] Prague--A Soviet delegation, headed by Deputy Premier Vladimir Novikov, arrived here on Sunday on a visit of several days to Czechoslovakia.

The delegation further includes Vitaliy Morosov, first deputy chairman of the State Committee for Foreign Economic Relations; Nikolay Semenov, first deputy minister of medium engineering; Vladimir Velichko, first deputy minister of power engineering; Nikolay Topatin, deputy minister of energy and electrification; and others.

The Soviet guests were welcomed at the airport by Czechoslovak Deputy Premier Josef Simon and other officials.

Also present at the airport was Soviet Ambassador to Czechoslovakia Aleksandr Botvin.

Nuclear Cooperation Discussed

LD261936 Prague Domestic Service in Czech and Slovak 0900 GMT 26 May 80

[Text] Talks started in Prague's Kolodeje Castle today between Josef Simon, federal vice premier, and Bladimir Novikov, deputy chairman of the USSR Council of Ministers. Taking part in the talks for the CSSR are: Ladislav Supka, federal minister for technological and investment development; Vlastimil Ehrenberger, federal minister of fuel and power; Ladislav Gerle, federal minister of electrical engineering industry; and other officials. Present at the talks from the Soviet side are: Vitaliy Morozov, first deputy chairman of the State Committee for Foreign Economic Relations; Nikolay Semenov, first deputy minister of medium machine building; Vladimir Velichko, first deputy minister of power machine building; Nikolay Lopatin, deputy minister of power and electrification; and other officials. Present also is Aleksandr Botvin, Soviet ambassador to Czechoslovakia.

The further development of cooperation between both countries was examined in detail. Particular attention was devoted to discussing a draft program for cooperation between Czechoslovakia and the Soviet Union in developing nuclear energy in Czechoslovakia in the period up to 1990. Questions concerning Soviet-Czechoslovak cooperation in constructing nuclear powerplants in Czechoslovakia was discussed. Also on the agenda were plans aimed at intensifying cooperation in the manufacture of equipment for nuclear power plants by way of coordination stemming from the bilateral intergovernmental agreements of 1974 and 1976 and the multilateral intergovernmental agreement of 1979.

CSO: 5100

BRIEFS

DUBNA NUCLEAR INSTITUTE DIRECTOR RECEIVED--Prague--Czechoslovak Deputy Premier Mataj Lucan received here Monday director of the Joint Institute for Nuclear Research in Dubna (USSR) Nikolay Bogolyubov. They discussed the activity and share of Czechoslovak experts in the realization of the program of this research centre of socialist countries. Nikolay Bogolyubov highly appreciated the research work of Czechoslovak scientists in the Dubna Institute. [Text] [LD192306 Prague CTK in English 1717 GMT 19 May 80]

CSO: 5100

BRIEFS

BRAZIL-ARGENTINA NUCLEAR TIES--Rosario, Argentina, 19 May (AFP)--Vice Adm Carlos Castro Madero, chairman of the Argentine Atomic Energy Commission (CNEA), has stated that Argentine-Brazilian nuclear cooperation "is the best proof to refute rumors which insist that both countries are interested in developing nuclear energy for military purposes." Castro Madero added that the Argentine-Brazilian agreement is "very important from the technical point of view because both countries have considerable nuclear capacity," and that "West Germany is our mutual supplier, and this strengthens our negotiating power." [Excerpt] [PY201843 Paris AFP in Spanish 0500 GMT 20 May 80]

CSO: 5100

CASTRO MADERO ON NUCLEAR PLAN, ACCORDS, INDUSTRY

Buenos Aires CONVICCION in Spanish 31 May 80 pp 10-11

[Interview with VAdm Carlos Castro Madero, Chairman, National Atomic Energy Commission, by Julio Orione: "Nuclear Contacts with USSR No Threat to Argentine Technological Independence"]

[Text] The celebration of the 30th anniversary of the CNEA [National Energy Commission] coincides with a decisive moment in Argentine nuclear development. To the launching of the nuclear plan, following the contract for Atucha II and other supplementary events we can now add the agreements with Brazil in describing this moment. Interviewed by CONVICCION, VAdm Carlos Castro Madero, Chairman, CNEA, reviewed the past 30 years which "enabled us to create an infrastructure which today gives us a coherent and realistic nuclear program, a program which will give the country progressive autonomy and greater decision-making capacity."

In the light of the review of the past 3 decades, Argentina emerges on a development level which Castro Madero described as "very important" and which places us among the group of countries that have started nuclear electric power plants. We usually have four types of countries, depending on the degree of atomic development: The most highly industrialized, with many power plants now in operation (the United States, Canada, the USSR, Western Europe); those that only have a few nuclear power plants (India, Pakistan, Argentina); nations which have research reactors constitute the third group; and the fourth group is made up of those countries which are in the stage of exploring their resources.

To this good international position, Argentina can add another achievement, that is, "the training of human resources, the real foundation for future development and the best guarantee for continuity. The Commission has been concerned with training experts in fields directly linked to nuclear electric development but we have also put together one of the biggest research and development teams in Latin America."

Completing the Cycle

One of the foundations for attaining self-sufficiency is mastery of the fuel cycle necessary for electric power generating plants. The objective is to start with the extraction of uranium and go all the way to its conversion into a fuel element which is inserted into the reactor. In 1980, "We are just about at the moment when we can control the complete fuel cycle," said the CNEA Chairman. "We are completing the process for making uranium dioxide as well as the manufacture of fuel elements, the manufacture of zircalloy jackets, and the heavy-water production plant. With all of this, we will have complete control of the cycle."

These plants will be ready before the middle of the decade while, around 1991, "through the engineering enterprise which will be established to build Atucha II, we are going to complete the Argentine capability for the design, construction, and operation of nuclear power plants," the other aspect which the country needs in order to meet the challenge deriving from the need for building one nuclear power plant per year after 1997. Concerning this intention, Castro Madero said that this involves "a provision in the National Energy Plan which is justified by the requirements for electric power after that date"; he explained that, prior to the completion of the Nuclear Plan, we do not contemplate the possibility of building any power plant other than the four currently provided for because, if the demand were to increase beyond estimates, another type of source would be used.

Meaning of Self-sufficiency

The CNEA Chairman defined Argentina's position in the nuclear field over the next several years by saying that "The country will be on a level where one cannot say that it will be totally self-sufficient but it will be so in practice because this will depend only on importing everything that would not be profitable for us to manufacture here. The country is going to have a big market where it can pick without being limited by external restrictions. What the country is denied in one place it will be able to procure elsewhere. I believe that, as Argentina grows stronger, the political obstacles will diminish because the negotiating power will grow. The favorable situation of the economy in the foreign sector and our own greater capabilities will enable the country to grow stronger."

The following dialog developed subsequently.

[Question] How would you describe relations with the United States on the basis of the refusal to sell Argentina enriched uranium?

[Answer] We are still having great difficulties in improving our relationships with that country. But there are signs of greater flexibility and there indications that the problem can be solved.

[Question] Was this influenced by the visit of Mr Richard Kennedy?

[Answer] The visit by Mr Kennedy, Chairman of the United States Nuclear Regulatory Commission, did not have any direct effect although it had an indirect effect since, as Chairman of that Commission, he was personally able to familiarize himself with the problems affecting relationships between Argentina and the United States in this particular field, in other words, what our position is and what reasons we can cite for not going along with United States policy.

[Question] What is being negotiated with the USSR?

[Answer] We want certain supplies from the USSR such as enriched uranium and other raw materials for our installations. The request is now being considered by the USSR; we do not have any reply as yet but we do have indications as to a good disposition which make us feel optimistic about the possibility of getting these elements.

[Question] It has been said that contacts with the USSR could threaten Argentina's nuclear technology.

[Answer] I would totally deny such comments. I have read that somebody would pass the technology, which the CNEA developed for zircalloy pipes on to the Soviets because Russian tools or machines would be used. That is far from the truth. What we want from the USSR is raw material, enriched uranium, and other raw materails, but that does not in any imply any dependence.

[Question] Will contacts with the USSR have an effect on relations with the United States?

[Answer] As far as I know, they have not had any effect and I do not believe that they can have any consequences regarding Argentina's relations with the United States. The USSR and the United States are maintaining relations; in the world of today, trade relations do not go hand in hand with ideologies.

Agreements with Brazil

[Question] In what way do agreements with Brazil promote the Nuclear Plan?

[Answer] On the one hand, they are a decisive factor in disproving the arguments coming from the sector of industrialized countries in denying technology and technical assistance. The fact that there is an agreement is eloquent evidence that the intention of both countries is to develop nuclear programs independently of other countries, that is to say, by seeking autonomy for ourselves. The agreement also strengthens the position of those countries which display confidence in us and which have not made any trouble in supplying us with the technology we need. On the other hand, the linkup between Argentina and Brazil, in my opinion, contributes to the integration of Latin America and consequently will make it possible for the voice of Latin America to be heard with greater force to the benefit of the region. Getting together with Brazil, and with the rest of the Latin American countries, makes us stronger.

[Question] What about the technical viewpoint?

[Answer] Although it is true that the greater flow of technology comes from abroad, we have advanced much in terms of the exchange of mutual information. It is now up to the agencies involved in the agreement, such as the CNEA and the equivalent agencies in Brazil, to start this exchange.

[Question] Is there going to be cooperation in the manufacture of enriched uranium?

[Answer] Brazil has a joint enterprise with Germany for producing enriched uranium. This is of interest to us because this will be a new market to which we can go when we need enriched uranium. But I do not see any possibility of both countries participating together or cooperating in the manufacture of this item at this moment at least. Besides, among Brazil's commitments toward Germany, there are certain restrictions on technology transfer. I do not deny the idea but, for the time being, I cannot see it materializing.

Argentine Industry and the Nuclear Plan

[Question] Is private enterprise actively participating in the Nuclear Plan?

[Answer] We have been looking into the manufacture of components by strongly promoting the participation of the nation's private industry, such as it happened in the case of Atucha I, and even more so at Embalse; we will increase it as much as possible. The CNEA however will always handle the basic engineering by itself.

Everything else--such as the detail engineering for the power plants--will be handed over to private industry. As far as the fuel cycle is concerned, it will include all those installations in which the enterprises express interest. We have already taken important steps in terms of this transfer at the deposits of Los Gigantes and Sierra Pintada and we are finishing the agreements so that the fuel element factory, which is about to be finished, may be operated by a mixed company. It cannot be totally private because this is an important strategic sector in which the government must maintain a certain degree of control.

[Question] What incentives do the enterprises have?

[Answer] We are trying to provide incentives for the participation of industry through economic attractions presented by nuclear installations and everything that may turn out to be worthwhile to them in fields such as heavy water, dioxide production, and others.

[Question] How will be the ENACE [Argentine National Nuclear Electric Power Plant Enterprise] be constituted?

[Answer] The engineering enterprise, which is now being constituted, will have 25 percent participation of the German KWU [Power Plant Union] enterprise during the initial stage. That participation will decrease with the progress of construction on the power plants under the Nuclear Plan and, upon completion of the last power plant, the enterprise will be completely national. The technology and knowhow for running a power plant will be in Argentine hands. At this moment we are in the phase of staffing the enterprise with Argentine personnel and we hope to get the blueprints for the design and construction of Atucha II. We are about to launch competitive bidding for the containment area among prequalified enterprises.

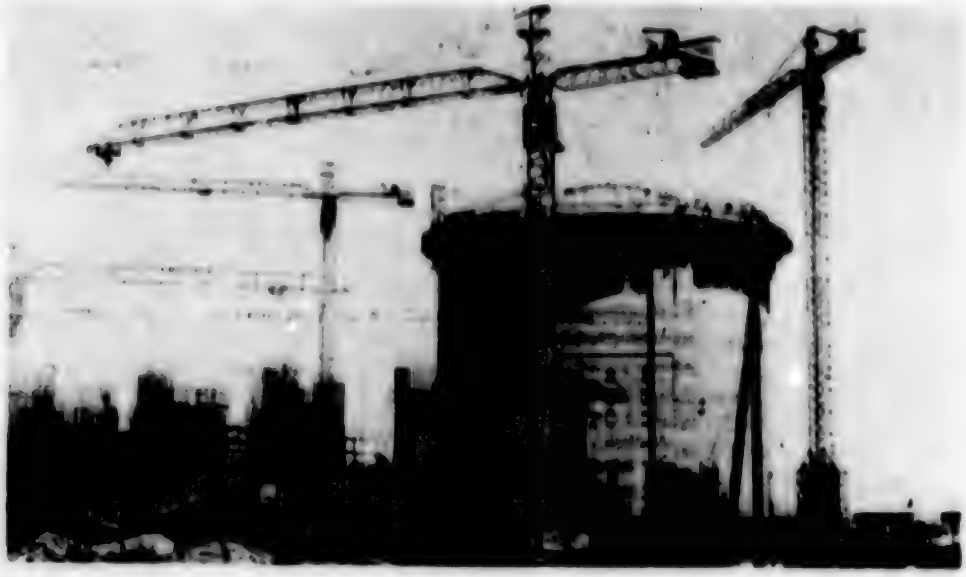
Progress at Embalse

[Question] Have problems with Canada been solved?

[Answer] After my trip, I was able to restore relations with Canada by spelling out the recognition of certain economic claims connected with the constructio of Embalse. Parallel to that, the CNEA took over as the general contractor for the construction project so that it will be able to go into action directly and with the assembly engineering enterprises so as to speed up the installation work. We were able to get Canada to realize that they have every opportunity for regaining the Argentine market. They were convinced that we would not look to them for the next power plants. Besides, we were able to secure the extension of the technology transfer accord, without any additional requirement, for a period of time equal to the delay at the power plant. The situation at Embalse has been cleared up completely.

[Question] Will the next power plants involve Canadian participation?

[Answer] Basically, the next three power plants could be of the pressure-pipe type,which is the type that they are building. This is the technology that is most attractive to us--the pressure-pipe technology-- because of its greater adaptability to the nation's industries. But first we want to see what the output of a plant of that type, build outside Canada, is going to be; we are going to see how Embalse works, following the excellent experience we had with Atucha. We want to see whether the Cordoba power plant will operate as efficiently as the former. And we are placing special emphasis on that center of gravity [critical main point] which the Germans, who are helping us at Atucha, are not spelling out or whether they might reverse their decision toward [in favor of] pressure pipes. Since this is a mixed enterprise, we want to make sure that an effort will be made along those lines. In that way we would be forewarned: We will see what happens at Embalse and then we will be able to decide whether it is worth going back to the Canadian system or whether we should go ahead with the German system. In that way we would be balancing out the possibilities contained in both offers and we would maintain the kind of competition which is fundamental for the country.



Embalse power plant under construction. According to Castro Madero, difficulties with Canada have been resolved.

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COLUMNIST WRITES ON NUCLEAR RELATIONS, OBSTACLES

Buenos Aires CONVICCION in Spanish 31 May 80 p 10

[Article by Martin Olivera: "Big Powers Raise Nagasaki Bugaboo to Hinder Atomic Development of Peripheral Countries"]

[Text] Ever since 31 May 1950, when the National Atomic Energy Commission was created by Decree 10.936, the strategic, political, and economic importance of nuclear development has changed substantially.

Since that time--with the memory of Hiroshima and Nagasaki still fresh--nuclear energy has inexorably become associated with the atomic bomb and the undoubted benefits that could be derived from nuclear development has been half hidden behind the fear of war.

Today, 30 years later, when those benefits are already known to a majority of the first-line powers and a good number of development countries, the fear of war continues to be the strongest argument raised by the superpowers in hindering the technological takeoff of the less developed countries.

It is clear that this argument, when analyzed quite coldly, cannot convince anybody right now for two reasons:

(a) Because, while there is fear of the nuclear development of Argentina or Brazil, nuclear armament is permitted, promoted, and perfected, in a circumstantial fashion in Pakistan, India or Israel; in other words, the fear of war is highly relative and is subordinated to strategic necessities;

(b) Because, at this moment, any country that has a nuclear technology base is in a position, through a major economic effort, to build atomic weapons. Argentina is no exception here. The simple fact is that, on the basis of a policy decision, it ruled out the production of atomic weapons in order to concentrate all of its technical and economic efforts on the development of nuclear electric energy.

One can therefore say that the real causes as to why the big powers oppose nuclear development are not to be found in fear of war; they are to be found in the fear of political, strategic, and economic independence which derives from a mastery of nuclear energy.

The Road to Independence

Among the achievements of the CNEA [National Atomic Energy Commission] over the past 30 years, there are some which because of their importance must be taken into account in trying to interpret the current international context in which the Argentine nulcear plan finds itself.

(a) In 1957, when the CNEA already had the Physics Education and Research Institute in Bariloche, it was decided to build the first research reactor (the "RA-1") totally with the help of Argentine engineers and scientists.

For this purpose, an agreement was signed with the United States, a country which took care of the reactor design and permitted on-the-job training for Argentine experts. This fact is of vital importance because it marks the beginning of the active participation of the nation's industry and science in nuclear development.

From that moment on, Argentina ceased to be a simple buyer of technology and gradually went into the era of production.

(b) When it was decided, in 1965, to built the first nuclear power plant--which eventually would be Atucha--we went into a discussion as to the fuel to be chosen for that power plant.

There were two options: Enriched uranium, backed up by great practical experience but monopolized by the United States; and natural uranium, used to a much lesser degree in operating power plants, but with great reserves in Argentina. After tough debates, we decided in favor of natural uranium.

The correctness of that decision is quite striking. It suffices to compare the status of the Argentine Nuclear Plan with its Brazilian counterpart or it suffices to think what would have happened if Argentina's reactors were operating on enriched uranium in view of political pressure from the United States.

In this connection it is good to recall that Washington, for several months now, has interrupted the flow of that fuel which the CNEA uses only for research reactors and radioisotopes. If we had not chosen the natural uranium line, then today, in 1980, the Argentine Nuclear Plan would depend on the good will of the Carter administrative.

(c) The third important factor in the independent development of the Argentine Nuclear Plan is the posture adopted by Argentina toward the nuclear NPT and the Tlatelolco Treaty on the military denuclearization of Latin America.

Concerning the former, Argentina's position was and is unalterable: We are against it because it is discriminatory among countries that have nuclear weapons and those that do not have any military technology but intend to go into nuclear development for peaceful purposes. While the former have already crossed the control barriers, the latter are subjected to all kinds of obstacles in the name of fear of warlike developments. In other words, the NPT is a political document designed to perfect the power of the atomic powers.

The Tlatelolco Treaty on the other hand, is not discriminatory because it permits the total development of nuclear energy for peaceful purposes, providing for the possibility of conducting nuclear explosions for these purposes, partly at the request of Argentina.

(d) As the final decisive factor in perfecting Argentina's nuclear independence we might mention the contract for the constrution of Atucha II which calls for the primordial participation of the nation's industry, definitely discarding the "turnkey" purchasing system.

International Relations

All of these above-mentioned factors, as well as the political situation in general, had tremendous influence on the development of nuclear international relations.

In this respect it is a good idea to review Argentina's principal nuclear relations at this time.

The United States has failed in its political pressure designed to prevent the signing of the contract with Switzerland for the supply of a heavy-water plant and with West Germany for the construction of Atucha II.

The only pressure instrument which the United States had was the enriched uranium which the CNEA uses for radioisotopes and research reactors. However, the fear that Argentina might procure the fuel from the Soviet Union and certain twists and turns in the policy of the Carter administration, with regard to its relations with Argentina (see yesterday's edition of CONVICCION) caused Washington to wind up selling enriched uranium to the CNEA.

In summary, nuclear relations with the United States are tending to get better, aided by the agreements with Brasilia which did away with all of the hegemonic war fears. On the other hand, Argentina has an ace in its negotiations in the form of the ratification of the Tlatelolco Treaty.

The Soviet Union came up as an alternative in the purchase of enriched uranium but, the fact is, it was used only as smokescreen while the trouble with Washington was being straightened out. It will be difficult for nuclear relations with Moscow to get through this situation.

West Germany: Relations are at their best.After some nonsense from Bonn in authorizing the sale of technology for Atucha II by KWU [Power Plant Union], Argentina's contacts with Moscow (once again the smokescreen) persuaded the Teutons quickly to say "yes."

Then came the nuclear approach with Brasilia and the Bonn administration detected the great possibility of monopolizing the nuclear development of Latin America. One must not forget that, when it comes to exchanging strategic elements, Argentina and Brazil--for the time being and because of their commitments to KWU--must have German approval.

Brazil: The signing of the general agreement and the cooperation protocol between Argentina and Brazil opened a new route in relations between both countries and served to calm "the nerves" of the big powers which thought they could see an arms race shaping up.

However, from the technical viewpoint, cooperation, in its first phase, was only symbolic because it did not involve the exchange of strategic elements for which "permission" is required from third parties.

Thus, the exchange of natural uranium (Argentina) for enriched uranium (Brazil) is not even mentioned. This aspect of cooperation--at which we will arrive sooner or later--evidently will have to wait for both countries to have a complete command of the fuel cycle.

At any rate, the exchange of information and minor technology seems positive, so long as nobody tries to subject nuclear cooperation to the general rules of the Trilateral Commission, turning Argentina exclusively into a producer of raw material (natural uranium) and Brazil into an industrial power.

In conclusion one can say that Argentina today, in 1980, is in an excellent nuclear negotiating position as the result of 30 years of coherent policies. It is to be hoped that all of this will not be swept away by passing presumptuousness.

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STAGES OF NUCLEAR PROGRAM DEFINED

Buenos Aires CONVICCION in Spanish 31 May 80 p 11

[Text] The Argentine Nuclear Plan, harmoniously integrated into the energy scheme worked out by the Energy Secretariat until the year 2000, provides for several phases. Here they are:

Construction of four nuclear power plants until 1997. The first one will be Atucha II which will have to be ready in 1987; the second one will have to be ready in 1991 and the third one in 1994-1995, while the fourth one will complete the program in 1997. Atucha II has been contracted for with the German KWU [Power Plant Union] enterprise and the mixed ENACE [Argentine National Nuclear Electric Power Plant Enterprise] enterprise will participate in its construction in an outstanding manner.

Completion of installations necessary for control of nuclear fuel cycle. This includes the manufacture of fuel elements at Ezeiza; the production complex at Sierra Pintada for the production of uranium concentrate which will be added to the existing ones; the Cordoba factory complex where we will get sinterable uranium dioxide of nuclear purity, and the industrial plant for the production of heavy water. These installations will be operational within a period of 5 years.

Training of personnel to be employed for the design, construction, and operation of nuclear power plants--a task which will mark the high point in a fundamental phase in 1991--coinciding with the start-up of the second power plant under this plan. This phase is tied in with the decline in the participation of the German KWU enterprise in ENACE and the increase in the percentage of tasks handled by Argentine personnel.

The projection of the Nuclear Plan is based on six programs put together by the CNEA: (1) Installation of nuclear power plants; (2) supplies for nuclear power plants; (3) radioisotopes and radiation, a fundamental aspect of the application of nuclear energy for peaceful purposes not connected with energy but involving fields such as health and food; (4) radiological protection and safety; (5) research and development; and (6) management, training, and support.

In the field of research and development, the CNEA [National Atomic Energy Commission] is seeking "to consolidate a scientific-technical infrastructure with a capability of its own which would generate the knowledge necessary for achieving self-sufficiency in nuclear materials." The 20-MVe electrostatic accelerator of the Constituyentes Atomic Center, studies concerning the manufacture of low-enrichment fuel elements, the installation of a laboratory for research on nuclear on fusion, work related to the use of solar energy and other projects--such as the installation of an intermediate power reactor--constitute parts of the activities of this highly important scientific center of Argentina.

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BRIEFS

NUCLEAR SAFETY--Concerning the problem of safety in nuclear power plants and the antinuclear movement which is proliferating in many industrialized countries, VAdm Castro Madero indicated that "This is a question that belongs within the area of the National Atomic Energy Commission which is the authority involved in the practical application and regulation of nuclear activities in this country. We believe that the population will be calmed down as a result of the right kind of publicity and through the safe operations of power plants to the point where the people will realize that the operation of nuclear power plants does not entail any risks greater than those inherent in other activities performed by man. That is our main concern here. We feel that opposition to nuclear energy--such as is the fashion now--can reach Argentina likewise. The support and the incentives which we have at this time indicate that Argentina's situation will be very special. The absence of an antinuclear movement in the country is something completely atypical. We have confidence in the good, common sense of our people so that they will not imitate the movement which is causing such serious consequences in other parts of the world." [Text] [Buenos Aires CONVICCION in Spanish 31 May 80 p 11] 5058

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MME SOURCE SAYS ARGENTINA'S ACCORD WITH KWU MORE ADVANTAGEOUS

Rio de Janeiro JORNAL DO BRASIL in Portuguese 2 Jun 80 p 16

[Text] Brasilia--Based on Brazil's experience, the Argentine government obtained greater advantages in the recent nuclear accord which it signed with West Germany through the KWU (Power Plant Union), the chief executor of the German-Brazilian agreement on the German side. This information was released yesterday by a source in the Ministry of Mining and Energy.

The Argentina-Germany nuclear accord, signed in Buenos Aires on 9 May, covered the supply of the main components for the Atucha-2 Plant which is to start commercial operations in July 1987, the intention to supply another three plants of similar size (around 600,000 kilowatts), and the creation of a joint engineering enterprise, more or less along the lines of NUCLEN (NUCLEBRAS Engineering, Inc), in which NUCLEBRAS [Brazilian Nuclear Corporations] holds 75 percent of the shares while KWU has 25 percent.

In the meantime, although in the case of the Argentina-Germany agreement, the engineering company--whose name is ENACE (National Argentine Nuclear Electric Power Plant Enterprise)--the division of shares will be identical to NUCLEN, there is in this latter agreement nothing that would be identical to the consultative committee made up of Germans, a committee which has the last word in any major decisions in the company. On any issue, the ENACE stockholders' contract specifies, the decision must necessarily be unanimous.

Concerning unanimity of decisions, it is also applicable to cases involving the transfer of technology and knowhow from KSW to the CNEA (National Atomic Energy Commission); this is not true of NUCLEN where these decisions are exclusively made by the above-mentioned committee; there the Germans have an absolute veto power.

Participation will be gradually reduced, with CNEA in the end holding 100 percent of ENACE by the end of construction of the third unit after Atucha-2.

The Argentines obtained other advantages on the matter of the market to be reserved for KWU in the acquisition of the next three plants. By virtue of the Brazil-Germany accord, NUCLEBRAS or the concessionaire companies, which may possibly build the next nuclear power plants, are obligated to contract with KWU--without any international competition--all the way to plant No 4 under the agreement (in addition to Angra-2 and 3, also the next two plants). Only in the last four plants is Brazil free to open international competition, giving preference to KWU under equal conditions.

In the case of Argentina, the CNEA is free to make international bidding invitations as of the first plant after Atucha-2 and, if other suppliers should submit more advantageous terms than KWU, it only pledged to permit the latter to submit another proposal which would be an average between the highest proposal, the lowest proposal, and the initial proposal submitted by KWU itself.

The source in the Ministry of Mining and Energy ruled out the idea that the Argentines proved to be more competent in getting such advantages in the agreement with the Germans. The explanation, in the official's view, is that circumstances have changed much since 1975. "As a result of the failure of some power supply contracts involving Iran, Spain, and Germany itself, and even the delay in the Brazilian nuclear program, KWU is today an enterprise that is desperate to get new contracts. Argentina knew how to exploit that," he said.

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BRAZIL

INTERVIEW WITH FOREIGN MINISTER SARAIVA GUERREIRO IN BONN

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 30 May 80 p 5

[Interview with Brazilian Foreign Minister Saraiva Guerreiro by Carlos Conde: "Bonn Wants Greater Presence of Brazil"]

[Text] Bonn -- West Germany would appreciate it if Brazil were to play "a more active role in world politics" German Foreign Relations Minister Hans-Dietrich Genscher said yesterday in receiving his Brazilian colleague Ramiro Saraiva Guerreiro. In starting his official 3-day visit, Minister Guerreiro was also received by Chancellor Helmut Schmidt and by Economic Cooperation Minister Rainer Offergeld.

Before taking up bilateral topics, such as economic cooperation and the continuity of the Brazil-Germany nuclear accord--which will be done at the meeting they are going to have today--Guerreiro and Genscher analyzed the framework of international relations and the situation in Africa where the Brazilian minister will continue on this coming Sunday, visiting five countries in 11 days: Tanzania, Zambia, Mozambique, Zimbabwe, and Angola.

In a group interview given yesterday, Guerreiro assured his audience that Brazil does not have "any plan" for setting off nuclear explosions for peaceful purposes but he repeated that the country defends the principle that "it is entitled to have access to all nuclear technology." In the context of the visit likewise, bonds worth $85 million were floated in Frankfurt and they will be incorporated into the Brazilian foreign exchange reserves.

Nuclear Issue

Minister Saraiva Guerreiro yesterday gave assurances in Bonn that there does not exist "any plan, any idea" on the part of the Brazilian government to use nuclear explosives or to conduct nuclear explosions for peaceful purposes. But he did recall that Brazil advocates the principle that it should have the right of access to all nuclear technology, being able even to make use of atomic explosives for peaceful purposes.

Guerreiro tried to clarify a recent statement of his which had caused some debate above all because it was made shortly prior to the visit by President Joao Figueiredo to Argentina. On that occasion, the minister mentioned the possibility of peaceful explosions within the context of the principle which Brazil advocates; and he added that there was no project along these lines, but that "only the first part" of his response was published. "Just as the government censored the press for some time, so the press now 'censors' some ministers," he said with a smile.

Guerreiro's statements were made during an interview which he granted after a series of contacts with German officials within the context of the memorandum of periodic consultations signed between the two countries. The minister said that there was no provision for a tripartite accord involving Brazil, Germany, and Argentina; but he did admit that contracts on the industrial level could be signed concerning deals between the three countries. KWU [Power Plant Union], for example, could subcontract equipment of NUCLEBRAS [Brazilian Nuclear Corporations] for Argentina and vice-versa. But he wanted to make it clear that an initiative of this type "would not affect the nuclear accord; it would only utilize the ways which it opened up."

Guerreiro reaffirmed his expectations to the effect that the Brazil-Germany nuclear accord will take up "little time" in the debates he is conducting with German officials. Last Friday, during the interview in Brasilia, he had said that the topic would not be discussed for more than 2 or 3 minutes with Germany; but almost identical newspaper stories expressed concern on the part of Bonn with problems which have come up during the implementation of the accord. The minister said that he did not take up yesterday any bilateral topics with the German Minister of Foreign Relations Hans-Dietrich Genscher, although this will be done today. This is why the atomic accord was not examined yesterday.

He admitted that there is a certain delay in work pertaining to the accord but he considers this normal and it is his understanding that this "will not affect the substance of that document."

During the speech he delivered last night, during the dinner given him by Minister Genscher, the Brazilian foreign minister assured his audience that the administration is trying to implement the nuclear accord "with full vigor." Here is the general reference in the speech to the nuclear topic: "I must also talk about the accord on cooperation in the field of peaceful uses of nuclear energy. Because of its economic and technological significance, this accord constitutes one of the most important links in our relations and it is the position of the Brazilian government to implement it with every vigor. We are convinced that our nuclear cooperation is solidly anchored in the principle of mutual advantages and that, in a particularly unfavorable energy situation, it represents an innovative and necessary effort."

Investments

Guerreiro does not believe that the social demand movements in Brazil can cause a withdrawal of German investors. He said that social demands were "foreseeable and normal" and that they did not take the Brazilian administration by surprise. The minister considers them "understandable" within the context of a regime which, according to him, "is normalizing itself along democratic lines." He believes that the demands are just but he thinks that it is necessary to make a distinction between those that are being upheld "within the democratic framework" and those that can "disturb order" or that can deteriorate into some kind of "destabilization." He also considered the exchange of ideas between Brazilian and German labor union sectors to be normal.

The foreign minister assured his audience that yesterday's debate between him and Minister Genscher, relating to Africa, was confined to an exchange of information and was mainly based on the economic development aspect. Genscher is greatly interested in the topic because the Africans, according to Guerreiro, play "an important role in the development of the international situation." In the foreign minister's opinion, the stability, progress, prosperity, autonomy, and independence of the African countries "are important to interested third parties, such as Brazil and Germany."

The international situation was also examined in these conversations, but without any reference to "local regional situations, without getting into any great detail on them." Guerreiro said that there was special interest in the progress of developing nations and also in the episode in Afghanistan; although the Brazilian and German positions are not exactly coincident, they have many points in common, such as the appeal for peace, self-determination, national assertion, and independence of countries.

Responding to a question from a German journalist, Guerreiro said that Brazil "is watching the situation in Central America with interest and that he believes that the modifications taking place in the region can be explained in the light of the conditions prevailing there as well as the internal structure."

In his address last night, Guerreiro said that Latin America is going through a phase of change. "We are experiencing dramatic moments now and others can come later," he commented while noting that the important thing however is that the countries in the area "are seeking solutions with objectivity and rationality."

In his address the foreign minister also examined North-South relations and, as one of its current ills, he mentioned the "exaggeration of distrust." He thinks that the time has come to provide new impetus for the dialogue and he feels that it is necessary to identify priorities properly. "The developing countries certainly are not in a position to sacrifice objectives of commerce and development--which are vital in enabling them to assure their own populations of minimum prosperity conditions--for the sake of the political game dictated by ephemeral power situations." In passing, Guerreiro deplored the protectionist barriers which countries such as Brazil face "among communities, especially when it comes to the most sophisticated products which therefore are of higher added value."

Schmidt

Helmut Schmidt, head of the German government, during the 45-minute meeting which he held yesterday with the Brazilian foreign relations minister, recalled his conversation with Paulo Evaristo Arns last year during his visit to Brazil. Schmidt and Guerreiro talked about the role of the Brazilian Catholic Church in the country's social problems. The minister informed the German chancellor on the outcome of the metalworker strike; according to an advisor to Helmut Schmidt, who was present during the meeting that was closed to the press, he mentioned the name of the metalworker leader Luis Ignacio da Silva.

Schmidt also proved interested in details on matters taken up by President Figueiredo during his journey to Argentina as well as reports on the next meeting with the head of the Chilean military junta Augusto Pinochet. Saraiva Guerreiro also informed the German chancellor to the effect that relations between Brazil and the United States are currently rather harmonious and that the nuclear accord with Germany no longer constitutes a problem in relations between Washington and Brasilia. Schmidt, in turn, briefed the Brazilian minister on his coming meeting with Leonid Brezhnev, in Moscow. Minister Saraiva Guerreiro and Chancellor Helmut Schmidt also talked about the crises in Iran and Afghanistan and about the current international political situation.

In addition to meeting with Schmidt and Genscher, Guerreiro yesterday held talks with Economic Cooperation Minister Rainer Offergeld; today he is to meet with Germany's foreign relations minister.

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CNEN HEAD SAYS DEMOCRATIZATION NOT TO DELAY NUCLEAR PROGRAM

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 24 May 80 p 23

[Text] National Nuclear Energy Commission Chairman Hervasio de Carvalho said yesterday in Rio that he does not believe that the political opening could cause any delays in the nuclear program. He said that "we must pay a certain price for instituting democracy in a complete form" but that price does not involve the nuclear program.

Hervasio de Carvalho said that the complex problems of planning and managing the construction of nuclear power plants are being analyzed by the administration and that the next units will already be taken care of by a more complete management system.

This administration decision, which is to be announced within several days --as had been revealed earlier by Col Sebastiao Valadao, superintendent-general for planning at NUCLEBRAS [Brazilian Nuclear Corporations]--will provide for centralized responsibility for the construction of nuclear power plants in a single agency, contrary to the "management mess" observed in connection with the work on Angra dos Reis.

The CNEN [National Nuclear Energy Commission] chairman said that he does not believe that any authority could interfere in its work as "guardian of safety" of the country's nuclear installations. "I have the courage necessary to do my duty," he said, "and I would prevent a nuclear power plant from continuing to operate in case it were established that it does not meet specifications, even though this shutdown may mean a daily loss of $1 million."

The statements made by Hervasio de Carvalho were motivated by the debates during the talks held this week at CNEN when there was a discussion on the need for disconnecting the agency from the Ministry of Mining and Energy in order to put it directly under the Office of the President of the Republic, as proposed by the physicist Anselmo Pascoa.

Carvalho said that he has the support of the president, the minister, and public opinion and that any interference would violate legislation in force on matters of safety in nuclear installations. He denied that he had a direct discussion with KWU or NUCLEN [NUCLEBRAS Engineering, Inc] on the problem of the rods at Angra-2 since the CNEN does not have any official relations with NUCLEBRAS but with the operator, in this case, FURNAS, so that no interference is permitted by third parties.

Site

The CNEN chairman again said that the site for the next nuclear power plant is being studied by the Ministry of Mining and Energy and the results will be revealed within approximately 20 days. He also recalled that preference is being given to the shoreline or the vicinity of rivers with a big flow rate which implies a large number of alternatives. "In the meantime," he said, "the shore is most advisable because it involves the least ecological problems."

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BRIEFS

500-MEGAWATT NUCLEAR PLANT PLANS--A large nuclear plant with a 500-megawatt reactor will be built in Chile, (Ondar Werkoff), the chief of the project, announced at a meeting of experts in Montevideo. He pointed out that with this plant, Chile will be able to meet the greater energy demands resulting from industrial growth. [Text] [PY160105 Santiago Chile Domestic Service in Spanish 0000 GMT 16 May 80]

CSO: 5100

INCREASED INTEREST IN URANIUM EXPLOITATION NOTED

Quito EL COMERCIO in Spanish 5 May 80 p B-7

[Text] According to information from the Ministry of Natural Resources and Energy, interest in uranium prospecting and mining is growing in the nation, in view of the importance of the radioactive mineral and the possible existence of mineral rich zones.

In March 1979, when the Ecuadorean Atomic Energy Commission [CEEA] law was promulgated, all activity related to prospecting, mining, processing and marketing of uranium and other minerals of nuclear interest became the responsibility of the aforementioned commission. All the institutions will coordinate, at the request of the commission, operations concerning nuclear activities.

Interinstitutional Agreement

Based on this foundation established in the law, the CEEA and the Ministry of Natural Resources and Energy entered into an interinstitutional agreement aimed at coordinating and joining efforts in this area. This document was signed by Jose C. Cardenas and Fausto J. Munoz Rivadeneira in their capacities as minister and executive director, respectively.

The first steps in this trend toward cooperation have already been taken. It is to be hoped that once the exact objectives and aims are established, prospecting and evaluation of possible uranium deposits will increase.

Basic Points of the Agreement

This agreement which will be in effect for 3 years and which can be renewed for the same period of time, will be in force throughout all of the national territory.

The basic points of execution are: survey of literature dealing with traces, deposits, and possible mineral rich zones in Ecuador; selection of favorable zones and specific studies of areas previously selected; utilization, for this purpose, of modern research methods and the preparation of joint programs.

The General Office of Geology and Mines, as the technical administrative body of the national mining activity, and the CEEA will provide the technicians that the projects require and the necessary equipment for prospecting operations.

The General Office of Geology and Mines will also allow access to and use of its computer. Among other things, the CEEA will provide the necessary logistic support and scholarships for General Office of Geology and Mines personnel.

The enforcement of the agreement will be guaranteed by a coordinating committee established by agreement of the two institutions.

Promising Future

The establishment of concrete and systematic foundations in an activity of such importance for the nation, as is actively directed towards prospecting and mining radioactive minerals, makes one think of a promising future for Ecuador.

The use of atomic energy for peaceful purposes and the capacity to enter in the world market with strategic minerals, is a prospect that the nation can loose sight of in its eagerness to develop.

CSO: 5100

BRIEFS

NUCLEAR TECHNOLOGY TRANSFER--Agreements to be signed by Mexico to obtain nuclear technology in exchange for oil will be subject to certain conditions: that the transfer of technology is effected in such a way as to permit Mexico to develop its own technology and that there be no supervision by any nation or representative of any international organization. At the same time, based on this policy, Mexico will proceed over the short term to develop a nuclear reactor industry, including the processing of fuels and [words indistinct]. The foregoing was revealed during the national nuclear program sponsored by the National Institute of Nuclear Research and prepared by institute director (Salmo Acosta Alonso). [Text] [PA221345 Mexico City International Service in Spanish 0300 GMT 22 May 80]

CSO: 5100

EGYPT

BRIEFS

DISCOVERY OF URANIUM DEPOSITS--Al-Ghurdaqah, 20 May--Deposits containing 5,000 tons of raw uranium were discovered in an area between Qina and Safajah in the Red Sea Governorate. Dr al-Shadili Muhammad al-Shadhili, chairman of the nuclear material authority board, has said that a comprehensive survey was carried out over a 10,000 km area and that work is currently being conducted in three mines to which a mobile uranium extraction plant is attached. He said that the largest factory in the Middle East for uranium production will be set up in this area using the most modern equipment in cooperation with Canada. The plant will cost 4 million pounds and will employ 1,000 workers. The first stage of its construction will be completed in 1982. [Text] [NC200813 Cairo MENA in Arabic 0745 GMT 20 May 80]

CSO: 5100

BRIEFS

MINISTER VISITS NUCLEAR POWERPLANT--Tehran, May 20 (PARS NEWS AGENCY)--Minister of energy, Hasan Abbaspour [name as received] inspected the atomic energy installations of Bushehr, south Iran on Sunday. Since the construction of the atomic power station was detrimental to the country from all technical, economic and political points of view, therefore at the proposal of the ministry and at the approval of the Revolutionary Council, it was decided to follow up the establishment of an educational and production complex in technical and professional fields in the installations. Abasspour announced that the final project for the establishment of the complex in Bushehr and the utilization of the installations of the atomic energy organization would be submitted to the Revolutionary Council in the next week. Deputy of the Ministry of Energy and supervisor of the Atomic Energy Organization, Sahabi and a number of the experts of the ministry accompanied the minister. [Text] [LD201058 Tehran PARS in English 0924 GMT 20 May 80]

CSO: 5100

DESIRABILITY OF NUCLEAR WEAPON DISCUSSED

Johannesburg THE CITIZEN in English 17 Jun 80 p 6

[Article by Aida Parker]

[Text] THE ANC is applying heavy pressure on Washington and the West generally to prevent South Africa manufacturing what it describes as "The Apartheid Bomb". But, politically, would it be in South Africa's interest to add a nuclear weapon to its military arsenal?

That critical question is argued out by Dr Michael Hough, Director of the Institute of Strategic Studies, University of Pretoria, in a position paper published in the latest issue of the institute's publication ISSUP.

He makes a very strong case against South Africa joining the N-Club.

Dr Hough warns that ceaseless and unrelenting international pressure could well persuade South Africa that it has no choice but to go nuclear. It could also be forced into this position should another sensitively situated African State, say Nigeria, acquire nuclear weaponry.

South Africa would then be faced with the choice of redressing the "balance of terror", or accepting unequal status in the African military arena.

But generally — "unless we gain a vast strategic advantage" — a nuclear shield would not be politically advisable for South Africa, particularly in its relations with neighbouring Black States.

Rumours

Dr Hough points out that for years South Africa has suffered rumours that it was setting off test explosions. In 1977 the Russians precipitated worldwide uproar with accusations that the SADF had set up a nuclear test range in the Kalahari.

Last year South Africa was again the target when the US State Department reported a mysterious "blue flash" in the ocean areas south of the tip of Africa.

Weighing the advantages of possessing the bomb, he says that strategically it might be advantageous as a deterrent, but politically harmful in that it could create still further isolation at an international level.

"The most important threat facing South Africa is that of insurgency. Nuclear weapons will not prevent that type of activity." In the conventional field, the South African deterrent "is more than equal both in a regional and continental context".

Problems

Only an invasion by a major power, or group of powers, could create problems. This necessarily would have to be a large-scale operation. South Africa would have to possess the ability to threaten the home territories of the attacking powers.

There were also the problems that (a) a South African threat to use nuclear weaponry would not be taken seriously; (b) the opponent might consider a South African nuclear strike would cause comparatively little damage.

"South Africa would be committing suicide by inviting retaliation of much greater magnitude.

"Only if the threat increases to a degree where there is no other choice — in other words, as a last resort — would it appear sensible from a strategic point of view for South Africa to develop nuclear weapons."

Dealing with the political implications, Dr Hough says that with the country's present position in international politics there would be tremendous criticism should South Africa acquire nuclear status.

"It is obvious that South Africa's policy of cooperation with African States would be adversely affected by such a development. South Africa is already being accused of 'aggression' because of the expansion of conventional military power.

"Logically, the development of nuclear weapons can be expected to evoke further sanctions against South Agrica, intensified propaganda, and insurgency will most probably follow.

"It is sometimes argued that the possession of nuclear weapons would enable South Africa to protect herself against other African States, or against Russian or Cuban intervention, and thereby to achieve status and prestige.

Debatable

"This argument is highly debatable.

"Many African countries regard Russia and Cuba as allies in their 'struggle' against South Africa, and do not feel 'threatened' by the Russian or Cuban presence on this continent.

"In any case, only the ability to threaten Cuba or the USSR can be a deterrent in that sense.

"As such a possibility does not seem realistic in the foreseeable future, it is logical that little credence will be accorded to South Africa's role as a bulwark against Russian or Cuban intervention, with the exception of the possible threat of tactical nuclear attacks against troop concentrations.

"At international level it is obvious that there will be much sympathy for the African States should South africa manufacture nuclear weapons, because these countries will immediately feel threatened.

"It is also not impossible that some of them will then insist on having nuclear weapons which, in view of the instability of the situation that could then develop, would create major problems for South Africa.

Doubtful

"Even a repetition of the offer of non-aggression by South Africa would not eradicate the fears of the African countries."

Dr Hough says that against this it could be argued that South Africa as a nuclear power would achieve political acceptability in the eyes of the African States . . . "but South Africa's superior conventional ability has failed to do this so far."

Whether the manufacture of nuclear weapons would lessen South Africa's isolation because of political considerations is doubtful.

"Admittedly, it may enable South Africa to pay less heed to threats to end 'apartheid' by military intervention. But, as already stated, it is calculated that in terms of conventional warfare it would be a tremendous undertaking even for a superpower such as the US or USSR to invade South Africa.

No advantage

"Whether South Africa as a nuclear power would find greater acceptance by the West, because she would then be a more redoubtable ally against Russian expansionism, is also doubtful.

"South Africa's consistently anti-communist standpoint has brought no tangible advantages to the country in the past.

"The US is obviously against nuclear proliferation or independent nuclear powers, even within Nato, as is evidenced by her stance in respect of French nuclear weapons."

Dr Hough concludes that, unless there is a dramatic change in political and other circumstances, South Africa would be best served by keeping its options open, by neither manufacturing nuclear weapons nor signing the Non-proliferation Treaty.

"In any event, rumours that South Africa is already in possession of nuclear weapony may provide a measure of deterrence, albeit limited, without the political disadvantage of open possession of these weapons."

CSO: 5100

SIAVONGA URANIUM DRILLING RESUMES

Lusaka TIMES OF ZAMBIA in English 17 Jun 80 p 1

[Text] By early next year a decision will have been made when the mining of uranium--one of the world's most strategic minerals--should start.

Drilling operations at Kawanga, 140 kilometres from Solwezi, have reached an advanced stage and it is reported that Agip Spa has found the metal.

This week Dr Luigino Meneghel, the Zambia manager for Agip Spa is writing to Prime Minister Mr Daniel Lisulo informing him that drilling has resumed in Siavonga. Work there had stopped two years ago because of landmines planted by rebel troops during the Zimbabwean liberation war.

If the deposits contain at least 0.1 percent uranium, mining will start immediately and Zambia will be pushed into the nuclear era with the capability to make Atomic bombs.

Indications at Kawanga are that the deposits there contain 0.14 per cent uranium, which already makes mining a viable venture.

Agip Spa has engaged the Roan Consolidated Mines (RCM), to undertake drilling which has been going on at Kawanga since March 7. Laboratory tests for uranium are reported to be satisfactory

At the moment there are only five countries in the world which produce this strategic metal in significant quantities and at an ever rising price--now at K40 a kilogramme--its discovery spells an economic boom.

Uranium can be used to make atomic and hydrogen bombs and for generating domestic and industrial energy.

The other countries which produce the metal are Canada, The United States, Australia, South Africa and Niger. Namibia produces uranium at Rossin, but the quality is about the lowest in the world.

Drilling operations for uranium were inaugurated by Minister of Mines Mr Mufaya Mumbuna last October who announced that the country was entering a new era with the discovery of the mineral.

CSO: 5100

EXPERTS CONCERNED OVER SAFETY OF LOVIISA NUCLEAR PLANTS

Worry Over Pressure Vessels

Helsinki HELSINGIN SANOMAT in Finnish 13 May 80 p 6

[Article: "EVY to Sundqvist: The Pressure Vessels of Loviisa 2 Are Unsafe"]

[Text] According to the Association for Energy Policy (EVY), the pressure vessels of Loviisa 2 are not safe. Welding and grinding have not eliminated the defects, in the opinion of the association, but instead have made them weaker than before.

A memorandum sent on Monday by the Association for Energy Policy to Ulf Sundquist, minister of commerce and industry, is based on a statement by Jarl Ahlbeck, a licentiate in technology.

According to Ahlbeck, cracks in the pressure vessels have been caused by a faulty crystal structure in the protective covering. Apparently a wrong electrode, inappropriate temperature, or incorrect technique was used in welding the pressure vessels.

The protective covering cannot be repaired by grinding and welding; rather the pressure vessels must be replaced by altogether new ones.

Ahlbeck believes that the cracks could spread to the pressure vessel itself and cause disastrous damage. Poor treatment of the surface lessens noticeably the resistance to fatigue of the steel in the pressure vessels. The danger caused by the brittle crystal structure is increased even more by the strong neutron bombardment [that will take place] in the pressure vessel, weaking the materials. According to the Radiation Safety Institute, the structural materials in Loviisa 1 have become brittle more rapidly than expected.

Radiation Safety Institute Defends

However, the Radiation Safety Institute has made a statement defending putting Loviisa 2 to use. According to it, those surface defects which would weaken the reliability of the pressure vessels have been repaired.

The significance of the surface defects which have been left unrepaired will be small during the lifetime [of the pressure vessels].

In order to reduce the neutron radiation hitting the pressure vessels of the reactor, Imatra Voima Oy [Imatra Power Company] has announced changes in the cores of both Loviisa reactors. The 36 fuel rods nearest the walls will be replaced by metal units. The change in Loviisa 1 will be made during the current month and in Loviisa 2 after the first year of use.

Loviisa 2 Loads

Helsinki HELSINGIN SANOMAT in Finnish 21 May 80 p 12

[Article: "Loading of Loviisa 2 Has Begun"]

[Text] Loviisa (HS). The loading of the second nuclear power plant in Loviisa began on Tuesday. Loading of the nuclear power plant will last about 3 weeks. After that, the power plant will be placed gradually into commercial use.

Loviisa's second nuclear power plant, which is 2 years behind its original schedule, received the necessary permits very quickly. Loading of the power plant began immediately after the Radiation Safety Institute gave permission for loading.

During the start-up phase, Loviisa 2 will still be under the supervision of the Radiation Safety Institute. The STL [Radiation Safety Institute] will gradually permit the plant to raise its power to the production of a full 440 megawatts.

Loviisa's first power plant, which was completed 3 years ago, has had to be run at 92 percent of capacity, because the STL did not receive sufficient clarification about the fuel used. The Radiation Safety Institute still hopes to be able to monitor production of the fuel, but permission for such supervision has not yet come from the Soviet Union.

At this moment, no electricity from nuclear plants is being generated at all in Finland, because of the two completed plants one is under repair and the other is just starting up. Next fall, one third of Finland's electricity will be generated by nuclear plants if all four plants are going as planned.

Use Permit for a Limited Time

The cabinet granted a use and safety permit to Loviisa 2 already last Thursday. Because international arrangements for the recycling of fuel and final disposition of nuclear waste are still being made, the cabinet gave permission the plant to be used only for a limited time, until the end of 1983. Permission for use of the fuel was given at this stage only until the end of 1980.

GDR To Get Similar Units

Helsinki HELSINGIN SANOMAT in Finnish 24 May 80 p 23

[Article by Risto Valkeapaa: "Nightmares of Loviisa's Pressure Vessels"]

[Text] The world's most studied nuclear power plant pressure vessel is causing grey hairs for engineers and researchers at the Loviisa nuclear power plant.

One deficiency after another is being disclosed:

The pressure vessel at Loviisa 1 is becoming brittle more rapidly than expected, and its fuel must be reduced by 10 percent.

The pressur vessel at Loviisa 2 was a "lemon": it developed small cracks. The cracks were repaired and Loviisa 2 is being loaded at the present time, a full 2 years behind schedule.

Every day of lateness means a loss of 200,000 marks, if computed according to the announcement of Imatra Power; a half million, if the loss is counted in terms of electricity alone.

The greatest worry has now become the fear of what will happen if a leak occurs in a brittle pressure vessel and cold cooling water is fed into the red-hot vessel.

Could the pressure vessel, which surrounds the core of the reactor, split open and could the worst possible kind of nuclear accident occur?

The pressure vessels at Loviisa 1 and 2 have come from the Izhora factory near Leningrad. The factory is located about one hour's taxi ride from the city center. It employs 30,000 people.

One division of the factory makes pressure vessels for reactors: 1000- and 400-megawatt "Novoronesh" pressure vessels.

The Finns were supposed to get their "tub" already at the beginning of 1976, but the factory had accepted more orders than could be produced at the other end. The pressure vessel which the Finns had feverishly expected was not ready until the beginning of 1978.

But the Finns in fact received only a "lemon": The long-awaited pressure vessel was poorly made, and there were clear manufacturing defects on the inner surface in the Finns' opinion.

The pressure vessel is made of iron and weighs 250 metric tons [275 tons]. Its walls are of carbon steel, an average 13 centimaters [5-1/2 inches] thich. Onto the inner surface, three layers of stainless steel have been welded, all together about 9 millimeters [1/3 inch] thick. The defects are in this layer.

The State Technical Research Center described the manufacturing defects as pieces of slag and heat cracks between welding points, the result of poor welding technique.

The stainless-steel layer or corrosion-resistance layer in the pressure vessel is supposed to keep the reactor's cooling water as clean as possible. It would apparently do that even if defective. But the Finns feared that the small cracks in the vessel could grow during use.

Many Finnish experts wondering about the defects visited Leningrad. The defects were studied mainly by altra-sound measurement. But no clear picture of them was obtained.

Nevertheless, the directors of Imatra Power decided that the pressure vessel could be imported into Finland. The vessel came by rail to Loviisa in June, and was transported openly to Hastholmen.

The Radiation Safety Institute gave permission in Loviisa for the pressure vessel to be installed, but did not yet approve the pressure vessel as Imatra Power had done.

Antti Vuorinen, director of the Radiation Safety Institute, said later that "in principle, these kinds of defects should be repaired at the factory."

Vuorinen also observed that the Radiation Safety Institute could not interfere with what is being imported from a particular factory.

Truth Learned Only in Loviisa

The true meaning of the defects became clear to the Finns only after the pressure vessel was in place inside the reactor building. After that it is difficult to remove.

The pressure vessel was tested in Loviisa at its normal temperature, about 300 degrees [572 degrees F.] without uranium fuel. After the test, small cracks were observed on the surface. Small cracks were found also under the surface.

Then working groups and a group of leaders were established to ponder the matter. Finnish and Soviet experts conferred about the pressure vessel. Included were experts from the Imatra Power, the State Technical Research Center, the Radiation Safety Institute, and Helsinki Technical College. Swedish, German, and Japanese experts also assisted.

Imatra Power claims that the Soviets should have repaired the defects. The Soviets didn't even want to talk about "defects," only about "indicators," signs that would point to some kind of defects.

"Finnish stubborness prevailed, and the pressure vessel was repaired," said Kalervo Nurmimaki, project head. "To be sure, the foreign experts said that you surely are being too particular when you require that kind of thing."

Three Soviet welders did the repair work in Loviisa. The work went through many phases, because a new pressure test disclosed still more defects. They were repaired too.

The Soviet welders did about 30 meters of new welding onto the walls of the pressure vessel. The work was done precisely, because first a corresponding weld was made on a test piece. Only when that had been done with a perfect mark was the man allowed to work on the actual wall of the pressure vessel.

All together about 70 defective spots on the inner surface of the vessel were repaired either by grinding or selding.

The pressure vessel was tested in a total of four pressure tests and various stress tests last March. Finally, Imatra Power approved the pressure vessel, and the Radiation Safety Institute considered that "the pressure vessel is sufficiently safe for its planned period of use."

Just because of the defects in the pressure vessel, Loviisa 2 was delayed by 10 months. Every day cost a half million marks just in electricity. Of course Imatra Power doesn't want to count it that way; rather they compare the cost of electricity produced by nuclear power with that of electricity produced from coal. Thus they arrive at a cost of 200,000 marks per day.

But the plant was late even without the pressure vessel defects. According to the original schedule, it should have been completed already in April of 1978. In terms of the cost of electricity, the delay has meant a cost of almost 400 million marks. Using the profitability of nuclear electricity as a starting point, the direct losses exceeded 150 million marks.

Loviisa 2 should originally have cost 700 million marks. The cost has risen during this process. At this moment, project head Kalervo Nurmimaki says the final sum will be 1.1 billion marks. Nurmimaki claims, however, that the study and repair of the defects in the pressure vessel have not raised the cost significantly.

Fines for delay in completion of Loviisa 2 ran out in the summer of 1979. The repair of the defective parts has been at the manufacturer's expense. Imatra Power says.

Secret Revealed Only Last Summer

Imatra Power (IVO) kept the seriousness of the pressure-vessel defects a secret all the time until the middle of June 1979. Then it was said that they woud delay loading by 2 months.

There had begun to be rumors about defects in Loviisa quite a bit earlier. The first to begin to question them publicly was city architect Elmar Badermann, a liceniate in technology who has received something of a reputation as a stormy petrel.

A German engineer who is a friend of Badermann was surprised that the Finns accepted delivery of a pressure vessel that would not have met safety standards in the German Federal Republic. He told Badermann about his surprise around May Day of 1978.

In the fall IVO representatives were asked about the defects in the pressure vessel, but because none of those asking questions knew precisely what was involved, no straight answer was obtained.

Peter Tuominen of Loviisa, an opponent of nuclear power, for example asked in the local Swedish-language newspaper in October 1978, what aesthetic defects Loviisa 2 had. Anders Palmgren, operations head of Loviisa 1 answered that the reactor building still lacked the surfacing of its facade.

And that was really so.

The Worst Possible Accident

Why then are defects in the pressure vessel considered important?

The importance of high quality and lack of defects in the pressure vessel is made clear in, among other places, a popular booklet published by the Finnish Power Plant Association entitled "Nuclear Energy and the Environment."

"The worst possible accident that could happen in a nuclear power plant is a break in the pressure vessel surrounding the core of the reactor.

"If this should happen, the fuel might melt and the tight protective structure be damaged so much that it would start to leak. In this event it is possible that radioactive gases and part of the other radioactive materials would leak out.

"In unfavorable weather conditions, that kind of damage could cause deaths in the surrounding area. Plants are designed so that this kind of situation cannot happen. The probability of a break in the pressure vessel is so small that it can be compared to the probability of a natural catastrophe. Pressure vessels are designed and manufactured with great care. All phases of manufacture are monitored and the results of the work are carefully studied. After the plant is put in operation, the pressure vessel is also inspected at regular intervals, so that the start of a possible defect can be detected."

Brittleness the Main Cause for Concern

The griefs caused by the 9-millimeter steel layer or corrosion-resistance layer are still a side issue compared to the main concern: the main worry is the durability of the actual wall of the pressure vessel.

The wall of unit 1 has now been observed to have become brittle faster than expected. The steel in unit 2 is claimed to be better, but only practical use will show the rate at which it becomes brittle.

The Radiation Safety Institute observes in its statement to the Ministry of Commerce and Industry: "The results of study of the first samples of the structural materials from the pressure vessel of the reactor unit at Loviisa 1 show that the structural materials used become brittle as the result of neutron radiation faster than was assumed as the basis of design.

In the view of the Radiation Safety Institute, the brittleness of the reactor's pressure vessel will be the limiting factor in determining its useful life."

In order to slow the process of becoming brittle, over 10 percent of the fuel will be removed from Loviisa 1 during the annual maintenance which has just now begun. In its place will be metal imitations of the fuel elements. The amount of energy contained in the reactor's core will be reduced through this change by about 7 percent.

As things stand now, Loviisa 2 will operate with a full load of fuel material for the first year. No doubt an influencing fact in this is that imitation elements are difficult to obtain. The elements for Loviisa 1 haven't yet been shipped by the Soviet manufacturer.

Meaning of the Layers in Dangerous Situations

When brittleness of the walls of the pressure vessel and small defects remaining in the corrosion-resistance layer are known, a combination arises which experts speak about differently, according to who is paying them.

The Radiation Safety Institute, as a neutral official, considers that the significance of the unrepaired defects in the surfaces is small during the useful life of the plant.

Kalervo Nurmimaki of Imatra Power does not consider that the corrosion-resistance layer is important from the point of view of durability. He refers to the explanation of the Soviet supplier of the plant, Atom-energo-export, to the effect that the layer does not affect the durability of the pressure vessel. He even compares the corrosion-resistance layer to a rust-preventing paint. The brittleness of the walls is considered by Imatra Voima to be under control: it is being monitored by means of metal pieces inside the reactor.

Jarl Ahlbeck of Abo [Turku] Academy, a licentiate in technology, has criticized the pressure vessel most vocally. Ahlbeck is a student of processes in machine technology. Among other things, pressure vessels also are a part of machine technology.

"A pressure vessel is a pressure vessel. It is surprisingly new, in terms of durability study, to claim that a primary crack has no effect on the durability of the whole structure," Ahlbeck says.

In Ahlbeck's opinion, the corrosion-resistance layer welded onto the wall is just as much part of the wall as the basic material itself. Ahlbeck considers Nurmimaki's statement about rust-preventing paint misleading.

The Possibility of a Frightening Leak

The safety system of the Loviisa power plant is based on the western concept that large leaks in the pressure vessel are possible, and that in dangerous situations much cooling water will be needed for emergency cooling. In the Soviet Union, the land where the pressure vessels for the Loviisa plant were made, the concept is that a large leak in the radioactive area of a nuclear reactor is not possible, because the plumbing has been made completely secure. In Soviet plants there is no emergency cooling system as such.

The main concern of Antti Vuorinen, director of the Radiation Safety Institute, is that a situation could arise where it will be necessary to feed cold water from the emergency cooling system into the hot pressure vessel.

The temperature of the water in the pressure vessels of the Loviisa power plants is about 300 degreees during operation, and the temperature of the water in the emergency cooling system is about 20 degrees [68 degrees F.].

The feeding of cold water into the red-hot pressure vessel would cause great stresses on the surface of the pressure vessel.

According to a study by the VTT [State Technical Research Institute], the process of becoming brittle is going on noticeably faster that expected. If the pressure vessel becomes too brittle, it could break like glass in a dangerous situation.

"Brittleness in the basic material has a most essential significance, but the corrosion-resistance layer also has significance," says Vuorinen. The corrosion-resistance layer must not be subject to stresses that lead to cracking. It is also essential that a defect not be able to progress across the transition zone into the basic material. The transition zone is the point where the corrosion-resistance layer and the basic wall join.

West Germany is Interested in Loviisa

The German Federal Republic as followed with interest the nightmare situation at Loviisa, because the same kind of plants are just about ready to make their appearance in the German Democratic Republic.

If the GDR accepts the Soviet philosophy of safety, they won't have reason for the same kind of worry as the Finns have, because due to the lack of an emefgency cooling system in Soviet power plants the danger of breaking in a pressure vessel, even if it has become brittle, is not as great as in Loviisa.

9611
CSO: 3100

FRANCE

ANTINUCLEAR UNREST SHARPENING IN BORDER AREAS

Paris LE MONDE in French 10 May 80 p 38

[Article by Claude Leheutre: "Chooz: Unrest Threatens To Spill Over the Border"]

[Text] Charleville--The farthest tip of the department of Ardennes is in turmoil. The start-up on Tuesday 6 May of the public inquiry into the plan to build a second nuclear power plant at Chooz and the stationing of a sizeable police force have caused temperatures to rise.

The marriage of Chooz and nuclear power is not something brand-new. In April 1967 a 300 megawatt plant (the PWR [Pressurized Warer Reactor] type) was put into operation using enriched uranium and pressurized light water.

At the time the program encountered hardly any opposition. The underground plant made barely any alteration in what was a very pleasant spot, and, as they got used to it, the village and its 650 inhabitants adapted to its being there.

Then came a rude awakening. On 6 November 1978, the Ardennes prefect announced that EDF [French Electric Power Company] had received the go-ahead to build four new reactors, but this time each one was to be 1,300 megawatt, or 17 times the power output of the existing plant. The site: Fumay or Chooz. They had to wait 6 months to find out the decision of the authorities: it was Chooz, because of how solid the subsoil is.

The news provoked an initial public outcry of protest by elected representatives, political parties and environmentalist organizations. The Chooz town council came out against the project. It even held an unofficial referendum in which the noes carried the day by a large margin. When the opening of a 6-week government inquiry was announced, the council made yet another decision, this time to take a stand against allowing the investigation to take place on the premises of municipal offices. Two squads of state police arrived from Sarreguemine and Besancon and a detachment of CRS [state security police] took up position a few days later. In the 14 communes affected (all 12 in the canton of Givet plus Hargnies and Montigny-sur-Meuse), state police are currently keeping an eye on hotel registers.

There is unrest in Belgium as well, in official circles as well as in border communes. By last week Mr Philippe Busquin, the socialist deputy, had publicly deplored at Gerpinnes near Charleroi "the particularly aggressive nuclear policy of France." Yesterday, the minister of public health, Mr Luc Dhoore, spoke of "a project that goes too gar and will be difficult for the Meuse and Ardennes to environmentally tolerate." Furthermore he would want to obtain guarantees from the French Government regarding water purity and the plant's operating conditions. Finally, on Wednesday, yesterday, another deputy, Mr Charles-Henry Gendebien, intended to show up in Chooz in the late afternoon: he was "persuaded not to" at the Franco-Belgian border.

The first reactor in this plant is expected to be put into operation in 1988. According to EDF "adding two 1300 megawatt sections will, taking into account the area's demand for electricity from now until 1990 and obsolescing and inadequate equipment, allow us to meet the requirements of the Champagne-Ardennes region and with what's left over to make a contribution to meeting the needs of regions on the other side of the border."

9631
CSO: 5100

NUCLEAR POWER PLANT OPERATING REGULATIONS ENFORCED

Paris LE MONDE In French 13 Jun 80 p 44

[Article: "Nuclear Power Plants: Very Strict Operating Regulations"]

[Text] The operation of a nuclear power plant obviously creates problem of a different nature than that of plants using fossil fuels (coal or fuel-oil): errors in operation may not only damage the production facilities, but also have potentially dangerous consequences for the population. A nuclear reactor cannot be shutdown and started any old way and, even when the nuclear reaction has been stopped, further operations are necessary to cool down the reactor core. In addition, maintenance and fuel-handling operations must follow very strict rules and well-defined procedures which, obviously, do not allow for wildcat work stoppages or rash interventions.

These are the type of deliberate acts covered by the Giraud amendment insofar as they present a safety risk, and whether organized by public service employees or by employees of other companies--who are involved in large numbers in the maintenance of the facilities.

At the Ministry of Industry, it is implied that one is concerned, for instance, by problems which may arise when the unions at EDF [French Electric Company] are outflanked by their rank and file, as may have been the case last fall at the Bugey nuclear power plant, when the deliberate disengagement of a turbine (putting it out of service) resulted in the emergency shutdown of one of the reactors. And it is felt that, under such conditions, EDF regulations have not proved fully adequate.

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WORK PROGRESSING AT CREYS-MALVILLE NUCLEAR PLANT

Paris LE MONDE in French 10 May 80 p 38

[Article by Claude Francillon: "Creys-Malville: A 'Defused' Building Site"]

[Text] Grenoble--On the Creys-Malville (Isere) construction site, the emplcement of the so-called "safety" vessel for the Super-Phenix breeder reactor began on Wednesday 7 May. Three days will be needed to set this stainless steel element--260 metric tons, 16 meters high, 22.4 meters in diameter and 25 millimeters thick--into place inside the future nuclear power plant. Next August the main vessel, which will contain 3,500 metric tons of sodium needed as coolant for the nuclear fuel, will be brought down inside this first element.

At the present time 1,250 people are working at the Malville site. The number of engineers and workers will gradually increase until the beginning of 1981 when there will be around 1,800. But the building site is of such a large size (it extends over 60 hectares) that you hardly notice the people who are working there. You have to get inside a huge workshop whose dimensions are about the same as those of the Georges-Pompidou Museum for you to discover a few more people. This is where the constituent parts of the vessels and the main components of the reactor, manufactured in French, Italian and German factories, are assembled and then welded together. Overhead cranes carry them to an enormous concrete structure which has been built up to its final height of 86 meters. The part of the power station that involves civil engineering is 90 percent finished: 150,000 cubic meters of concrete have been poured, and 4.7 million man-hours out of a projected 12 million have already been expended. After 3 years, the Malville site has taken on a very different appearance from what looked like at the time of the 30-31 July 1977 anti-nuclear march, which attracted a crowd of 60,000 people. The only remaining testimony to that large demonstration is the electrified fencing and the chevaux-de-frise which remain in place, as well as the weather antenna. The surrounding woods and farmland, at that time untouched, now bristle with pylons which will transmit electricity generated by the Super-Phenix experimental station starting in 1983.

The construction are has become quite a common destination for people out for a walk. Six thousand people have already visited it in 4 months and 20,000 "admissions" are expected for all of 1980, the officials of NERSA (the company with the job of building the plant) proudly point out. In this way an effort is made to "defuse" the emotional impact of this high-speed neutron plant on the population.

The chairman of NERSA's management committee, Mr. Boris Saitcevski--a top-rank manager in EDF [French Electric Power Company]--makes the observation that Americans, Soviets, Germans and Japanese are crowding to get into the site: "Americans look on us with a certain amount of envy. Politicians and industrialists from the other side of the Atlantic have proved to be very interested in what we have accomplished." While they are very talkative when it comes to the technical characteristics of the structure, NERSA's managers are much less so when the subject of cost is raised, which had been estimated at 5.3 billion francs in 1977.

A Malville resident who had come to see the emplacement of the vessel wondered why EDF has purchased 150 hectares of agricultural land on the banks of the Rhone since Super-Phenix, which is meant to start up in 1983, will not occupy any more than one-third of that area. NERSA's "boss-man" tells us that this area "will probably not be used for reprocessing the radioactive waste," since the government and the AEC [Atomic Energy Commission] have expressed their intention to expand that kind of activity at La Hague and Marcoule. "However," added Mr Saitcevski, "EDF has not kept the additional land for nothing; the site might be filled out at a later point." With what kind of plant? "The construction of a second breeder is not contemplated for this location," answered the NERSA official.

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